news • developments • research • significant articles • statistics • personalities • features

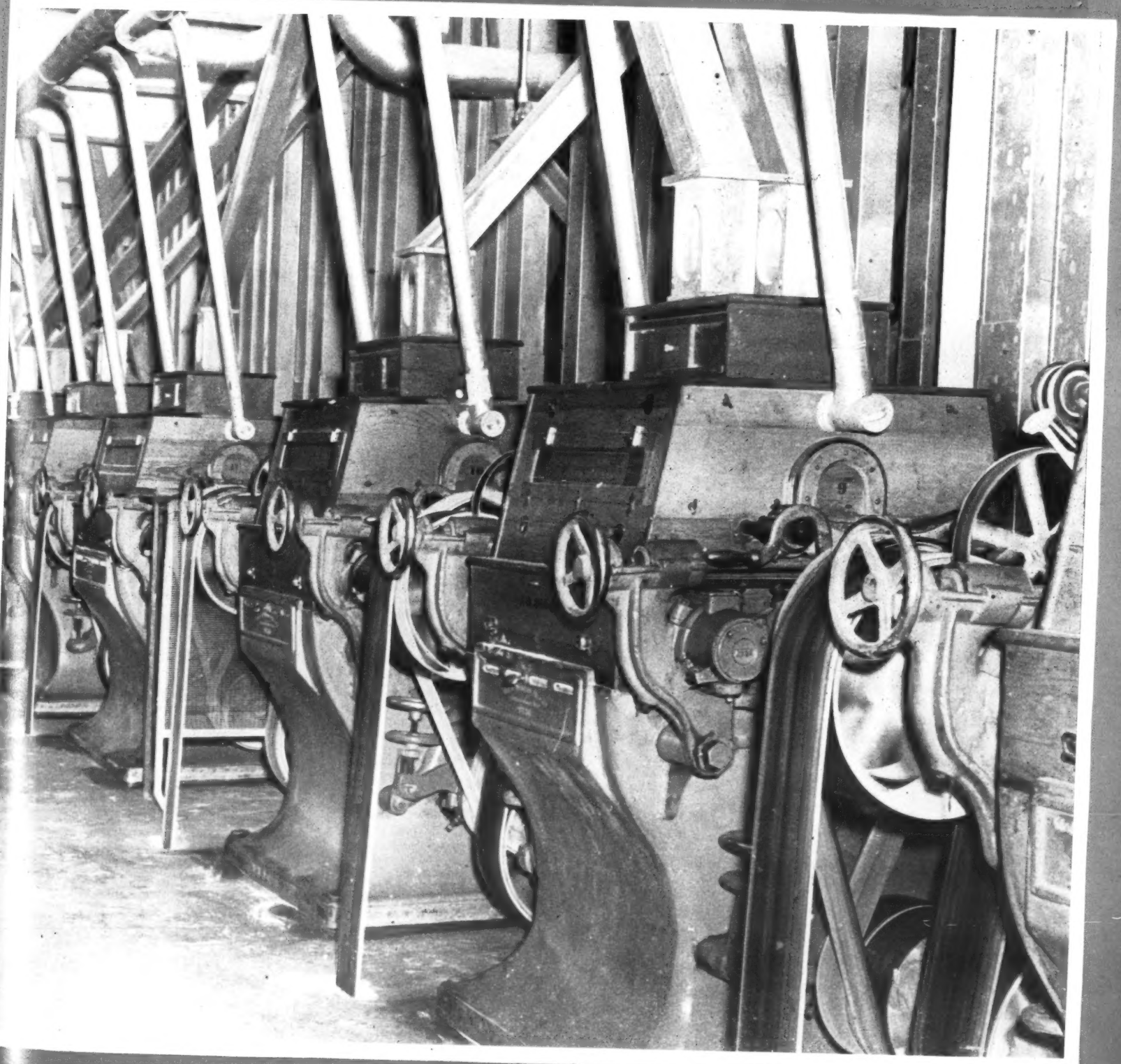
The·Northwestern·Miller

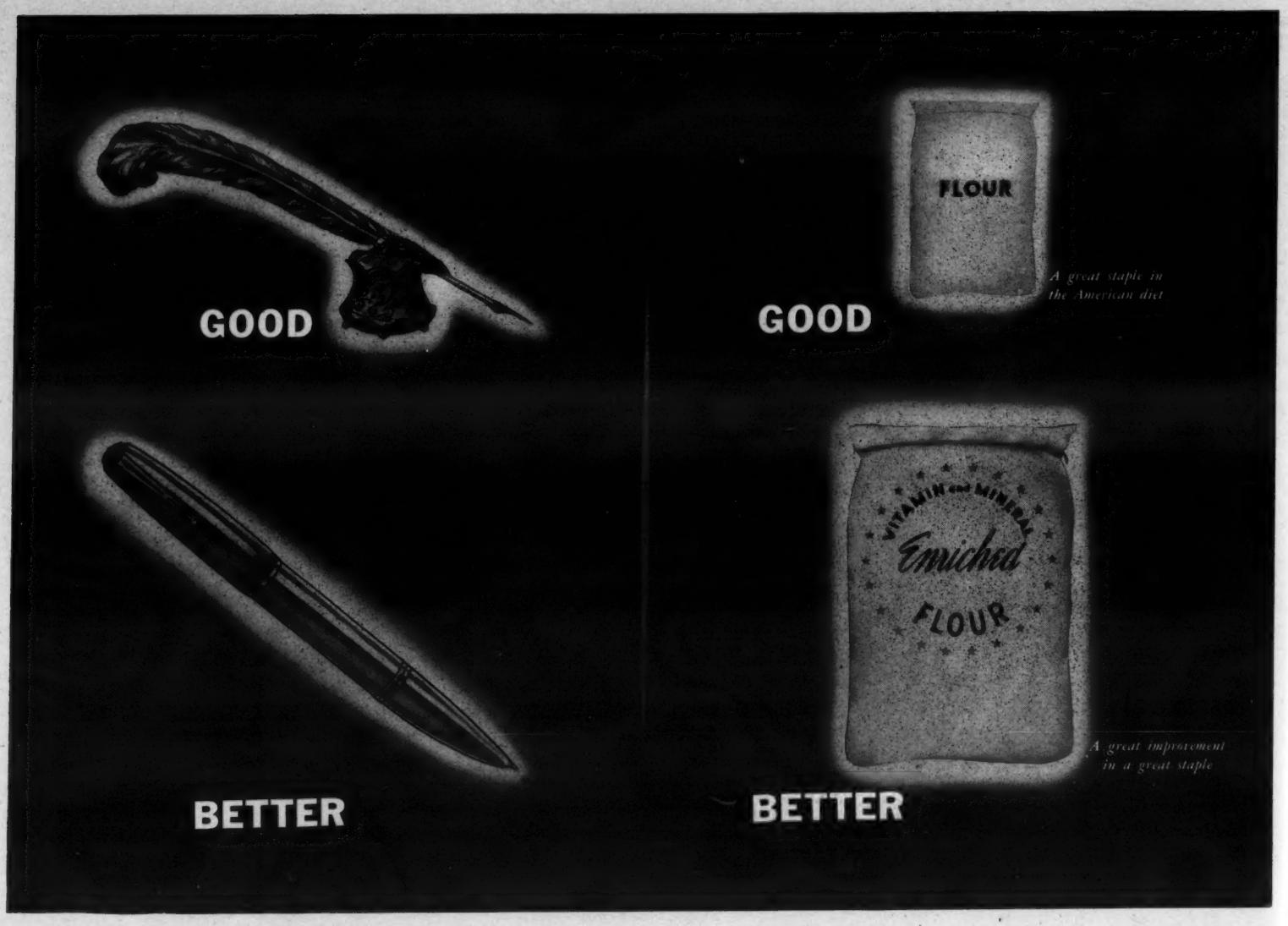
MILLING PRODUCTION SECTION

JUNE 11, 1946

Volume 226 • Number 11

IN TWO SECTIONS—SECTION TWO





and MERCK Flour-Enrichment Mixtures enable you to make this BETTER flour BEST

ONE of the greatest single contributions to national nutrition is the universal improvement in our diet provided by enrichment.

Throughout the enrichment program, the milling industry has expected, and we believe has received, the utmost in co-operation and service from the Merck organization—as well as the best possible in vitamin mixtures.

Merck Flour-Enrichment Mixtures are smooth and free-flowing. They provide important operating advantages in continuous feeding or batch-mixing. They facilitate accurate enrichment.

The milling industry can always depend on receiving *outstanding* mixtures from the *outstanding* leader in the synthesis, development, and large-scale production of vitamins.

STOCKS OF MERCK VITAMIN MIXTURES ARE CARRIED AT:
Buffalo, N.Y. • Rahway, N. J.
St. Louis, Mo. • Dallas, Tex.
Chicago, Ill. • Seattle, Wash.
Kansas City, Mo.
Los Angeles, Calif.
Knoxville, Tenn.
Nashville, Tenn.

★

Merck also offers

No. 36P—VITAMIN MIXTURE

This is identical in composition with No. 36 Vitamin Mixture, except that in place of Iron by Hydrogen, Sodium Iron Pyro-Phosphate is used.

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Calif.

In Canada: MERCK & CO., Ltd., Montreal • Toronto • Valleyfield

Vocational Training for Young Millers

The milling industry in the United States has not kept pace with other industries in establishing technological and vocational training courses for its workers, Mr. Fuller believes. In this article he makes several recommendations for the establishment of training schools for the milling industry, which needs properly trained young men to work in its plants.

By Milton P. Fuller

Vice President and Manager
King Milling Co., Lowell, Mich.

Milton P. Fuller

THOSE of you who have been harassed by the scarcity of second millers during the past decade will appreciate the difficulty of finding and training young men to take the places of us who in the years to come must retire and leave the mills in the custody of others.

Is operative milling a profession, a skilled trade, or, as some persons insist, is it a semi-skilled trade? To call it a profession implies that operative millers have had a reasonable amount of scientific training; a considerable amount of carefully directed operative experience and have a sense of executive responsibility.

The milling business is big business, a great and widespread industry, with many large and small mills well scattered over the United States.

Most great industries obtain their best candidates for training for their best positions from the colleges or trade schools. Is this true in our industry? You can answer this by your experience in your own mill. How are your millers trained? How many schools do we have in the United States that have a training course for operative millers? The answer is one. Kansas State College at Manhattan is the only school offering a course in milling technology. The Dunwoody Industrial Institute and The Northwestern Miller have done some excellent work with a correspondence course. There have been a few rather successful attempts to arrange special short courses or night schools in one or two milling districts, especially the course offered by the millers in Kansas City several years ago.

The milling graduates of Manhattan are comparatively few in number, and except where they are the sons or special proteges of smaller millers, they are grabbed off by the large mills and there is no one left who is at all interested in a position in the medium-sized or small mills. The small mill has practically no chance of hiring one of these young men.

A Lack of Training

To get down to cases, how are the men trained in your own mill? Some boy or young man looking for a job, just as a job, and with no idea of making operative milling his life's work, is taken on as a sweeper. We keep him on the sweeping job until he is thoroughly fed up with it and then perhaps we make an oiler of him, and then after a year or two, he is made a machine tender, or smutter, or bolter, or roll tender. In some cases if he doesn't get discouraged and leave the job for brighter fields, he will be given a chance as a trick miller. Ordinarily this takes more time than he would have to spend in securing a college education.

Promotion Depends on Seniority

In a great many mills his promotion depends upon seniority, and waiting for somebody ahead of you to die (or to get disgusted and leave) is a tedious process. In all the several years which the boy has spent in the mill, he may have been taught very little. Perhaps the only things he learned are the most obvious procedures which he couldn't help absorbing as he worked around the machines from day to day.

How much time do we put in teaching these young lads the principles of milling? How much have we told them about why we use certain corrugations on certain rolls? Do they know why we run certain rolls dull to dull, or sharp to sharp, or sharp to dull? Do they know what we mean by differentials? Do they know why we use scratch rolls instead of smooth rolls on certain stocks? Do they know how and why a purifier works? How many of these young lads, who have been with us for several years, have been taught how to grind? Could we turn them loose in the mill with the rolls out of adjustment, and depend on them to set them properly in the course of an hour? How much do our young apprentices know about reading a flow sheet?

I hired a young miller a few years ago who had much better training than the usual graduate of the school of hard knocks, and found that he had had absolutely no experience in grinding, and that he couldn't set the rolls on a bet, although he could keep them running pretty well, if they had already been set by the head miller.

How many of the young men in our mills can figure proper pulley sizes, to get the machine speeds we want with a change in driving pulleys? How many of them know what to do if the yield runs too high, with a change in our wheat? How many of them know what to do if the front office says that the low percentage flours cost us too much to mill, or that the ash is running too high for the percentage we are making?

These are only a few things which I have taken at random, but the point I want to make is that there is too seldom anyone teaching the young men anything with the definite purpose of making good millers of them. I know this problem has been worrying a good many millers for many years, and especially during the past three years, when there have been more attractive openings and possibilities in other industries.

No Incentive for Young Men

How many times have you decided to take some young man from the packing room or the warehouse, and make a miller of him, only to find the lad is not interested? They just cannot see themselves working long arduous years as sweepers, oilers, bolters, machine tenders, only to wind up in a second miller's job at best.

The milling journals have frequent want ads for second millers and would have more only that the mill managers know that there will be very few replies, and many of these from the floaters who have been drifting around from one mill to another for many years.

We were desperate for a good second miller in our mill this past year. Our superintendent and head miller was working such long hours that I was afraid he would break under the load. I finally found a miller, capable and experienced, who had retired because of advanced age and increasing deafness. He is running a trick for us now and we had a little party for him the other day to celebrate his 81st birthday. The only reason he can stay on the job is that we have an excellent manlift. If the manlift stops he has to stop, because his old heart won't let him walk up and down stairs. He is making good money and having the time of his life, even though he is so deaf that the only place where he can hear is in the mill when the machinery is rumbling.

General Scarcity of Millers

I know that our situation is not too exceptional as some of my mill manager friends occasionally ask me if I know where they can obtain a second miller. They have even wanted to borrow one of our three millers. Incidentally, the situation as far as millwrights are concerned is even worse, but that is another story.

These conditions are not right, and something ought to be done about them. They are something for which the Millers National Federation, the Operative Millers Association, and the technical schools must be looked to for the answers.

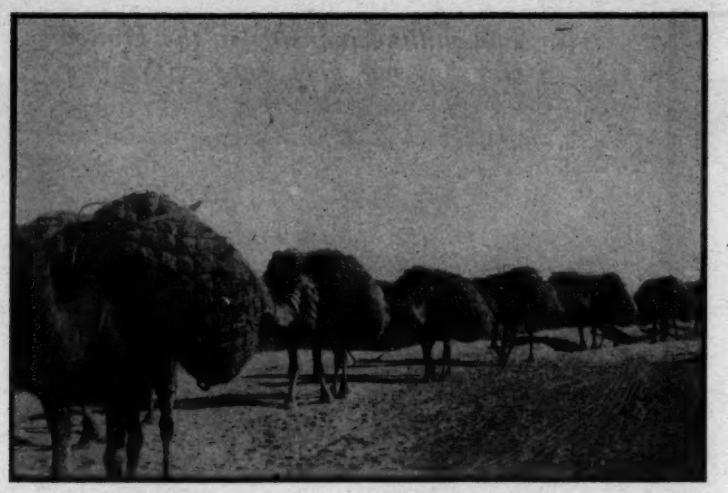
It has been said by some great efficiency engineer that the major factors in the success of any great industry are not methods or materials, but men. As I see it, any manufacturer has two jobs, one of them to turn out the product which is the basis of his industry, and the other, the making of men. The flour miller has two jobs, one of them is milling flour and its by-products; the other is preparing men to not only carry on with our mills as they are, but to make some of the improvements in structure and operation which have been long overdue.

A good miller is a man who can take $2.50 worth of wheat, and turn it into, say, $3.00 worth of flour and 70c worth of feed. When you analyze the operation with all its ramifications, it is really quite an accomplishment.

Now let us see about the other side of his job. I saw in a Boston chemist's window some time ago an interesting chemical analysis. From it I learned that the human body contains enough fat to make seven bars of soap; enough carbon to make 9,000 lead pencils; enough phosphorus to make 2,200 matches; enough Epsom salts for a good dose; enough iron for one large size nail; enough lime to whitewash an outhouse; enough sulphur to chase the fleas from a dog, and about 10 gallons of water. The total market

(Continued on page 29a.)

Editor's Note: The accompanying article was adapted from the text of an address prepared for delivery by Mr. Fuller at the Golden Jubilee Convention of the Association of Operative Millers, Chicago, June 4, 1946.



It may have been a scene such as this that gave rise to the expression: "The straw that broke the camel's back." The camels are loaded with "tiben"—the heads of grain cut in the field, to be transported to the threshing floor. The picture was taken in an Iranian desert.

The Syrian shown in the picture is riding a "noreg," used to separate the grain from the chaff and short straw. The threshed and winnowed grain contains a considerable amount of dirt and filth.

Milling in the Middle East

By J. H. Shollenberger
Northern Regional Research Laboratory, Peoria, Ill.

The Egyptian workers in this picture are winnowing the threshed grain, preparatory to moving it to the storage yard.

This picture is of an Egyptian peasant's home. What appears to be a chimney on the roof is an earthenware jar used for the storage of grain, a common practice in Egypt.

THE Middle East, or the Near East as it is sometimes called, although the cradle of civilization, is now one of the least progressive spots in the world, especially regarding the methods generally in use for harvesting, handling and milling of grain. In the case of the latter, the methods in use range from the most primitive to very modern, with all conceivable variations in between. Every processing system that has ever been devised appears to be in operation there. Many are original improvisations nowhere else duplicated. This part of the world is not industrially developed, and almost all of the few industries it has are rudimentary in character. Consequently, it is almost wholly dependent upon outside sources for its milling equipment. Judging from the wide assortment being used, not many source possibilities have been overlooked, but American equipment is scarcest.

Editor's Note: The accompanying article is the text of an address that was delivered by Mr. Shollenberger at the Golden Jubilee convention of the Association of Operative Millers, Chicago, Ill., June 3-7. He describes his experiences while serving with the U. S. Department of State as advisor to the Middle East Supply Center on flour milling matters.

Before proceeding further with my story, I should probably mention how my information on this subject was acquired. In November, 1943, I joined the Foreign Service Auxiliary of our State Department, as an advisor to the Middle East Supply Center on flour milling matters. The Middle East Supply Center was an Anglo-American wartime agency with headquarters in Cairo, Egypt. It was organized for the purpose of giving to that part of the world what economic assistance might be considered essential to the conduct of the war.

My job was to inspect mills, report on their capacity and condition, and advise on the kind and quantity of milling machinery and supplies needed to keep them going. It was also my duty to advise on the mixtures of grains suitable for flour making. In the performance of these duties, I made intensive studies in Egypt, Palestine, Lebanon, Syria, Cyprus, Iran and Libya. In making these studies, I traveled several thousand miles by plane, train, truck and taxicab, and visited several hundred mills and bakeries. On these trips I was accompanied usually by Military Civil Affairs people, generally of British nationality.

To understand the whys and wherefores of Middle East milling, it is necessary first to know certain significant facts concerning the inhabitants, the climate and the grain used in milling.

A Land of Extremes

The visitors' first impression is the great disparity of wealth—a small number of people of great wealth and pomp contrasted with the great majority in extreme poverty. Because of these extremes one finds ultramodernism and extreme primitiveness side by side. Almost all of the people live in mud huts and under very unsanitary conditions. Dysentery and all sorts of infectious and contagious diseases are prevalent. These hazards and other handicaps to their existence result in an average span of life of only about 32 years.

The inhabitants of this part of the world, numbering around 70,000,000, are followers mainly of the Mohammedan religion. The men, as a rule, are very unprogressive, except that many have several wives and at least one Persian rug. They prey (pray) on both, the former for work and the latter for religious purposes. The people nearly always live in cities or villages, except those still in the tribal stage of development living in tents and moving from place to place in the search of pasture for their sheep and goats. Throughout nearly all of the area the people subsist principally on a simple diet of bread and meat.

Major Portion Is Arid

The Middle East to which I refer, comprises Arabia, Northeastern Africa and Southwestern Asia. Except for its northern brim, this area is subtropical in climate and of low rainfall, so low in fact, that the major portion of it is an arid waste. Its agricultural pursuits, where at all possible, are generally limited to the grazing of sheep and goats, and to the production of wheat, barley, grain sorghums and millet. Probably rye and oats also could be raised, but nowhere in this region are these two grains grown to any appreciable extent. Where fresh water, like the Nile River, is available, irrigation is practiced. In such sections the agricultural pursuits are different. The

(Continued on page 8a.)

WANTED:

Better Insect Control Methods for Mills

By Roy K. Durham

Director, Technical Service Dept.
Millers National Federation

R. K. Durham

I WOULD like to conduct an experiment which would be of definite interest and value to every operative miller. By this experiment, I would prove beyond doubt where and how insects get into flour mills. Having that proof, then I want to determine the effectiveness of methods for blocking off those sources. This experiment would necessarily be conducted in a completely new mill, which had been subjected to a general fumigation before grinding any grain. Such a mill could reasonably be expected to be insect free. After the mill is put into operation, careful observations would be made each day to learn how soon live insects begin to appear. From that point on, I would study the rate of increase in insect population. During the experiment, I would keep screenings well removed from the mill proper until they had been treated in some manner to destroy insects therein. I would not feed any previously milled flour into the system. My guess is that such a mill would operate longer than most millers think possible before a general fumigation would be necessary.

Flour that has been shipped to the mill, or even that which has been stored in the warehouse for some time, and wheat screenings are obvious avenues of infestation. Mechanical and electrical devices are available, which manufacturers claim will destroy absolutely all insect life in flour and screenings. If and when experience proves these claims to be correct, then feed-in flour and mill screenings will cease to be troublesome commodities.

Two other often mentioned sources of mill infestation have not been included in the foregoing limitations. One is second-hand bags; the other is wheat going to first break rolls. It is assumed that all second-hand bags are thoroughly dry-cleaned, laundered or fumigated before being brought into the mill proper. If this were not done, I would insist that only new bags be used during the experiment.

With the screenings, the feed-in flour and the second-hand bag eliminated as sources of insect contamination, there remains the frequently accused roll wheat. Just how guilty the roll wheat is has not been determined. There are some very studious, well-informed millers and technicians who argue that insect life cannot withstand the cleaning, tempering and first breaking operations, and that roll wheat is not, therefore, a very probable carrier of insect life. If the mill which I have described did become noticeably infested within three months, I would suspect that roll wheat was the source, although more positive proof would be needed.

If evidence should clearly prove that roll wheat is a source of mill infestation, and if mechanical and electrical devices for killing insect life in wheat live up to claims made, I would certainly install one of those machines at the head of my guinea-pig mill. I would then have blocked all four of the most often accused avenues of infestation. But don't think for a moment that my insect troubles are solved. Remember, I didn't install the equipment to kill insects in roll wheat until after the mill had already become rather heavily populated by insects, accompanied, as they surely would be, by larvae and eggs. So now I am confronted with the task of ridding the mill of absolutely all insect life in order to complete the second phase of my experiment. I now want to determine the effectiveness of the blocked-off points of entrance. If another new mill were available, the problem would be simplified. But new mills are few and far between; and even if a new one were available, I still have the slightly used, but nevertheless buggy, mill to de-bug.

The first and most apparent suggestion is general fumigation. That is the commonly employed procedure. Two fumigations each year are now almost standard practice. But if we are honest with ourselves, we must admit that general fumigations are discouragingly inadequate.

I say again, as I have said many times before,—no general fumigation of a mill which has been in operation destroys 100% of insect life within the area fumigated. There are several very obvious, but not easily corrected, reasons. Mill buildings are not constructed to prevent leakage of fumigating gas. Furthermore, there are often unknown, inaccessible, or overlooked places where dust or intermediate mill stocks accumulate to such depth that insects therein are not reached by the gas. It is possible that we have not given sufficient study to the weaknesses of commonly used fumigating gases. Perhaps we could utilize those gases to better advantage. Or, it may be necessary to discover a new fumigant. It is a well known fact that a flour mill becomes reinfested much too soon following a general fumigation, and I firmly believe the number one reason is the failure of that fumigation to kill all insect life.

If a few mills could foresee a period of enforced idleness in the next few weeks, due to inability to secure wheat, and if these mills should undergo fumigation at the beginning of that idle period, we would have an excellent opportunity to observe whether live insects make their appearance in machines where there has been no reasonable chance of outside reinfestation.

Until such time when there is substantial proof that avenues of infestation have been completely blocked, and until the perfect fumigant or fumigation procedure has been found, mill people should demand that mill machines be redesigned to eliminate cracks, ledges and dead-ends, where flour may lodge and provide refuge for insect life. Every time a machine, conveyor or elevator leg is installed, emphasis should be placed upon the elimination of every possible nook and cranny where mill stock or bugs might accumulate. If scientists were to make the effort, it should not be difficult to find a method for treating the inside surfaces of mill machines with a repellent or toxicant which would have little or no harmful effect on the finished flour. D.D.T. has been suggested for this purpose, but too little is yet known about how to use it, or about its toxicity to mill insects or to animals. There are at least four newly discovered insect toxicants claimed to be 3 to 10 times more effective than D.D.T. It is quite possible that by the time we know how to make intelligent use of D.D.T. it will have become antiquated.

When millers succeed in delivering to the flour packing machine a product free from live adult insects, larvae or egg, it will be important to protect that flour from outside infestation. Research is being conducted along this line. There is some rivalry between paper and textile bag manufacturers to see who will be the first to perfect an insect proof or insect repellent flour container. During the war, various agencies were secretly engaged in a study of chemicals having insect repellent properties which could be used to impregnate fabrics from which soldiers' clothing was made. The results of that secret investigation are now being declassified and released for public consumption.

Boxcars in which flour is shipped are often very badly infested. Before the war, it was a growing practice to cleanse boxcars by use of compressed air or steam. The methods used did not insure insect-free cars, but were a definite help. Nowadays, as you are well aware, the cleansing step has been discontinued. Furthermore, mills have very little choice of cars. D.D.T. may prove to be the nemesis of bugs which inhabit boxcars. Here again, research is needed to learn in what form, and in what quantities and by what methods of application it should be used. One authority recommends solution in oil because the insect absorbs dissolved D.D.T. more readily than when left as a residual deposit from water suspension. Another says the oil will penetrate wood, carrying the dissolved D.D.T. along with it, and thus no surface deposit is left. Still another authority recommends a compromise by emulsifying oil solution of D.D.T. in water. Some say spray water suspensions in very fine mist, others recommend relatively large-sized droplets. One pest control

(Continued on page 27a.)

ASSOCIATION PRESIDENTS—The present, past and future presidents of the American Association of Cereal Chemists are pictured above as they appeared at the speakers' table during the organization's convention at Niagara Falls, Ont., May 13-16. On the left is Dr. Paul Logue, Monsanto Chemical Co., St. Louis, who succeeded Dr. Oscar Skovholt (center) as president of the association. R. M. Sandstedt, University of Nebraska, Lincoln, the president-elect, is on the right. In his new position, Mr. Sandstedt will serve as chairman of the executive committee.

With the Chemists: *A Picture Report of the 1946 Meeting, A. A. C. C., Niagara Falls, Ontario*

E. G. Bayfield, Standard Milling Co., Chicago, and M. J. Blish, Amino Products Co., Rossford, Ohio.

Karl F. Finney, Federal Soft Wheat Laboratory, Wooster, Ohio, and J. A. Anderson, Grain Research Laboratory, Winnipeg.

R. C. Sherwood, technical director, Special Markets Division, Winthrop Chemical Co., and W. L. Haley, Fisher Flouring Mills Co., Seattle, Wash.

W. S. Claus, General Mills, Inc., Minneapolis, Minn., and Hans U. Böhi of Switzerland, a student at Kansas State College.

Fred Ketch, Pendleton, Ore; T. R. Aitken, Winnipeg, Man; W. H. Waddell, Guelph, Ont; Gaston Dalby, New York, N. Y., and H. H. Favor, East Norwalk, Conn.

George Garnatz, Kroger Food Foundation, Cincinnati, Ohio, and T. C. Roberts, products control department, General Mills, Inc., Minneapolis, Minn.

J. A. Anderson (with back to camera), Grain Research Laboratory, Winnipeg, Man; F. C. Hildebrand, General Mills, Inc., Minneapolis, Minn., and H. F. Vaupel, Universal Mills, Fort Worth, Texas.

P. Halton and R. H. Carter, both on the staff of the Research Association of British Flour Millers, St. Albans, Eng.

Mrs. Paul Logue, wife of the president of the association, and Miss Elise Shover, American Bakeries Co., Atlanta, Ga., at the Wallace & Tiernan Co. luncheon.

J. George Kehr, Russell-Miller Milling Co., Buffalo, N. Y., and Frank A. Feild, Federal Yeast Corp., Baltimore, Md.

W. R. Corey, Monsanto Chemical Co., St. Louis, Mo., and J. F. Hasselmann, Wallace & Tiernan Co., Inc., Roanoke, Va.

Oscar Skovholt, Quality Bakers of America, New York; C. C. Fifield, U. S. Department of Agriculture, Beltsville, Md; M. A. Gray, Minneapolis, and M. J. Blish, Amino Products Co., Rossford.

Holger Jorgensen, chief of the research department, Dansk Goerings-Industri, Copenhagen, Denmark, and F. L. Dunlap, Wallace & Tiernan Co., Inc., Chicago, Ill.

M. C. Markley, Cargill, Inc., Minneapolis; A. A. Andre, Nebraska Consolidated Mills Co., Omaha, Neb., and W. L. Haley, Fisher Flouring Mills Co., Seattle, Wash.

Progress Report-

The Nation's Cereal Chemists Tell of the Results of Recent Research and Development

By George W. Potts and Paul L. Dittemore
Editorial Staff of The Northwestern Miller

Editor's Note: Following are brief reports of many of the papers read at the thirty-first annual convention of the American Association of Cereal Chemists, held May 13-16, at Niagara Falls, Ont. The papers will appear in complete detail in Cereal Chemistry, official journal of the association. Additional abstracts will appear in the July issue of this publication.

ARRANGEMENTS COMMITTEE — Members of the Toronto Section, American Association of Cereal Chemists, formed the local arrangements committee for the organization's 31st annual convention held at Niagara Falls, Ont., May 13-16. The committee members are: (seated) L. J. Bohn, Sven Young, Mrs. J. B. Kinney, D. A. MacTavish, chairman; Robert Van Burek and N. L. Gregory. Back row: A. Kemeny, J. E. Stone, H. W. Baker, S. T. Hadley, H. Johannson, D. A. Williams and H. E. Guertin.

Flour Components in Batter and Dough

Indications pointing to the possibility that desirable bread making properties of flour and beneficial effects of dough mixing are primarily related to the gas occluding and subdividing properties of dough were stressed in a paper on "The Relation of Flour Components in Batter and in Dough," read by K. L. Fortmann, Research Laboratories, Novadel-Agene Corp., Newark, N. J., at the morning session, May 16. The research was the work of J. C. Baker, H. K. Parker and K. L. Fortmann.

Mr. Fortmann stated that rheological studies indicate dough mixing tends to increase extensibility and softness and that "batter work showed this is initiated by disintegration of flour endosperm structure and release of attachments between starch and gluten."

The paper noted that continued mixing modifies dough so it stretches more easily and occludes gas more readily. "The rate at which changes occur appears to have some as yet unknown relation to the dispersion of gluten and alcohol," Mr. Fortmann said.

Frying Shortenings for Doughnuts

Frying shortenings intended for use as frying media for doughnuts should be carefully chosen as "frying shortenings, in light of recent studies, must be considered an integral part of the finished product, rather than a simple frying medium," W. G. Epstein, Doughnut Corp. of America, Ellicott, Md., stated in a discussion of shortening action on bakery production performance in a symposium on fats and oils presented May 16.

Stressing that doughnut quality is in direct ratio to frying shortening performance, he pointed to a definite relationship between performance of frying shortenings used in doughnut production and the effect obtained from the flavoring agents used in preparing the doughnut.

The degree of hydrogenation, the physical characteristics of the shortening and the nature of the components of the shortening all affect dry mix performance, Mr. Epstein stated.

Gassing Rates During Dough Fermentation

A study of gassing and gassing correction on loaf volume through the use of a solution of sucrose and malt as a corrective medium was reviewed at the baking chemistry and technology session, May 16. The study, concerned with gassing rates during fermentation and involving flour doughs made from 67 samples of Canadian hard red winter wheat, was conducted by H. Miller, J. Edgar and A. G. O. Whiteside, Central Experimental Farm, Dominion Department of Agriculture, Ottawa, Ont.

A wide variance in peak rate and rates at which peaks occurred was noted in the experiment as was a lack of relationship appearing to exist between initial and corrected gassing rates.

Measurements of loaf volume and gassing rate employing a bromate-phosphate formula showed that both the gassing rate and loaf volume could be depressed by over-correction.

CHEMISTS' BANQUET—Shown in the picture above is the head table at the banquet held during the convention of the American Association of Cereal Chemists at Niagara Falls, Ont., May 13-16. Those seated at the table, from left to right, are Dr. and Mrs. W. F. Geddes, John Whinery, Mrs. Paul Logue, Dr. Logue, Dr. Oscar Skovholt, Mr. and Mrs. R. M. Sandstedt, Mr. and Mrs. Frank Schwain, Mr. and Mrs. Lowell Armstrong, Mr. and Mrs. A. W. Alcock.

Explanation of Research in Corn Processing

The program of the Corn Industries Research Foundation in developing new instruments and techniques designed to standardize and improve methods and laboratory procedure in a form useful to government laboratories and to industries consuming the products of the starch industry was outlined by N. F. Kennedy of the foundation, in a symposium of corn wet milling presented May 13.

Mr. Kennedy stressed that there was no inter-industry competition but rather a policy based on purely scientific research and technical co-operation on an industry basis. He rated as of major necessity the defining of technological and research problems common to all member companies, such as: experiments on process equipment to increase efficiency of manufacture of common products; establishment of common analytical procedures to measure moisture content and create accurate dry substance accounting methods; studies of the best practice in the use of filter aids; experiments with improved types of textiles for sieving and filtration, and experiments with different types of equipment and metals used to resist corrosion.

External phases of the organization's work include co-operation with such scientific bodies as the A. O. A. C., the S. B. C., and the A. A. C. C., the speaker said, with fundamental research stimulated by fellowships in many universities and an annual starch round table.

The policy of co-operative research work on an industry basis might well be used as an example of possibilities of technical co-operation in other industries, Mr. Kennedy said.

Amylase Action in Starch Pastes

A progress report on work dealing with kinetics of amylase action in 20% starch pastes at elevated temperatures was presented by W. D. Claus, Pabst Brewing Co., Peoria, Ill.

The work deals with kinetics of amylase action determined under approximately the conditions prevailing in brewery mashing with temperatures up to 70 to 80°, pH between about 5 and 6, and in a 20% concentration of starch. Purified alpha and beta amylases used in this work are relatively heat-stable in liquefied 20% starch paste, Mr. Claus said.

Use of Non-Viable Dry Yeast in Doughs

Oxidizing or heat and oxidizing treatment of non-viable dry yeast before use in dough improves the resultant bread and, with proper treatment, all dry yeasts can be satisfactorily incorporated in dough to the extent of 3 to 5% flour basis, C. F. Davis, Fleischmann Laboratories, New York, stated at a session on enzymes and related subjects on May 15.

In a study of the behavior of non-viable dry yeast in bread dough made by C. F. Davis in collaboration with Gisela Frenkel, Schwarz Laboratories, New York, several commercial samples of the yeast used as a dough ingredient were found to have a varying degree of destructive effect on dough which was reflected in the bread.

The study showed that all of these yeasts producing a deleterious effect on the dough could be improved by appropriate oxidizing treatment, or heating to boiling followed by oxidizing treatment before use in the dough, with the major portion of the improvement in most of the yeasts brought about by oxidizing treatment.

The second factor causing dough deterioration seemed to work independently of the factor responding to oxidizing treatment. This factor was apparently enzymatic in character because some of the doughs became

(Continued on page 19a.)

Milling in Middle East

(Continued from page 4a.)

people are more settled and there is an intensive production of a wide assortment of field crops which includes wheat, corn, cotton, rice, citrus fruits, grapes and vegetables.

All the grains produced are used in bread production, but wheat and barley are most used. Much of the barley is of the black type, and makes a very dark colored flour. The wheats produced are of three colors, red, white and purple, but white predominates. The purple colored wheat is produced in Ethiopia, the inhabitants of which, as you know, are also colored. White wheats are preferred because from them a whiter flour is possible than from a red or a purple wheat. Particularly is this true in the case of long extraction flours.

Wheats Vary in Texture

In texture, wheats of the Middle East range from extremely soft to very hard. The latter includes some durum varieties. The soft wheats predominate on irrigated land and the hard wheats on unirrigated land. The wheats usually are badly mixed as to variety, because pure seed is difficult to obtain, and because little effort has been made toward crop improvement, except in Palestine and Egypt.

The softest and probably the weakest wheats of the entire Middle East are found in Egypt. Some of the production in that country is a native or so-called "Beladi" type, inherited probably from the ancient time of Joseph, the super grain merchant who stored the surplus from seven bounteous crops and then fed the people through a seven-year famine that followed immediately after. The better Egyptian varieties are of recent foreign origin from India and Italy.

Modern bakeries are unheard of in Egypt. Shown above is a typical stall or booth in Egypt where the baker sells his wares. The loaves in the foreground are of the puff paste type of pastry.

Over most of the area, wheat and barley are harvested by hand with a knife or sickle and stacked in the open. The climate is dry and there is no hurry for harvesting or for threshing. In the principal grain producing areas there is practically nothing else grown, consequently the farmer can afford to take plenty of time both in cutting and in threshing his grain because he has no other farm work requiring attention. This fact probably accounts, to a large degree, for the primitiveness of the methods used. Time and efficiency mean nothing to him; in fact, he frequently desires to stretch these operations over a long period of time and resists the adoption of more efficient methods.

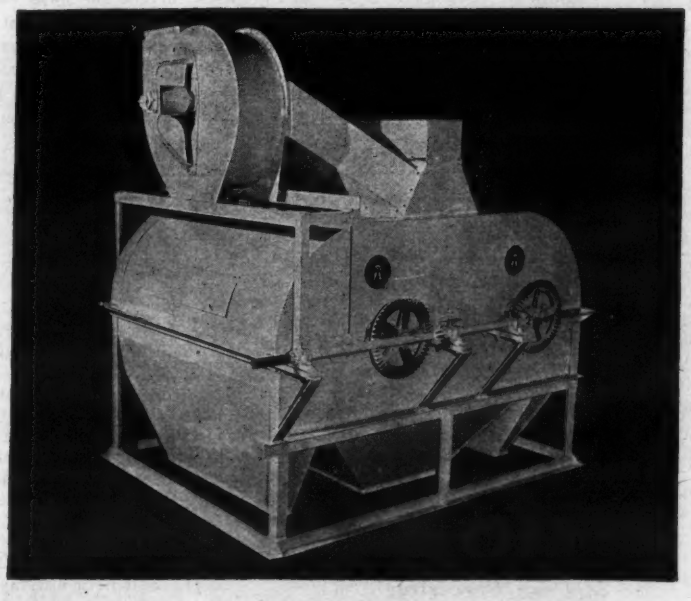
Primitive Threshing Devices

Threshing is performed by having oxen or donkeys drag a roller-like contraption called a "Noreg" round and round the base of the grain stack where a portion of the grain has been spread out on the ground. This contraption consists of two-log rollers about three feet in length fitted into a framework on which the driver rides. These logs, fitted with teeth or plates, thresh the grain and chop the straw as they roll over the grain. When all the straw is chopped to about 2- or 3-inch lengths, the grain is considered threshed. The dragging operation is then stopped and the chopped straw, called "tiben," and the grain are forked aside to await an opportune time for winnowing. Other straw is then forked from the stack onto the driveway and threshing continues. It takes about four days to thresh a ton of grain by this method, and when sacked and ready for storage or delivery to the mill, this ton includes about 200 lbs of sand, soil, animal manure, trash and weed seeds. The latter, however, is not very prevalent, owing to the low rainfall.

The chopped straw and chaff by-product of threshing are packed in coarsely-woven woolen sacks and transported on the backs of camels or donkeys into a convenient storage place, usually the top of a house roof, for future feeding use. This is about the only feed the camels and donkeys get, other than pasture.

Grain Stored in Jars

Storage of grain varies in different parts of the Middle East. In North



DOUBLE OVERTOP SCALPER with Fan and Aspirating Top

Haaky OVERTOP SCALPER

A NEW HIGH *in Scalping Efficiency*

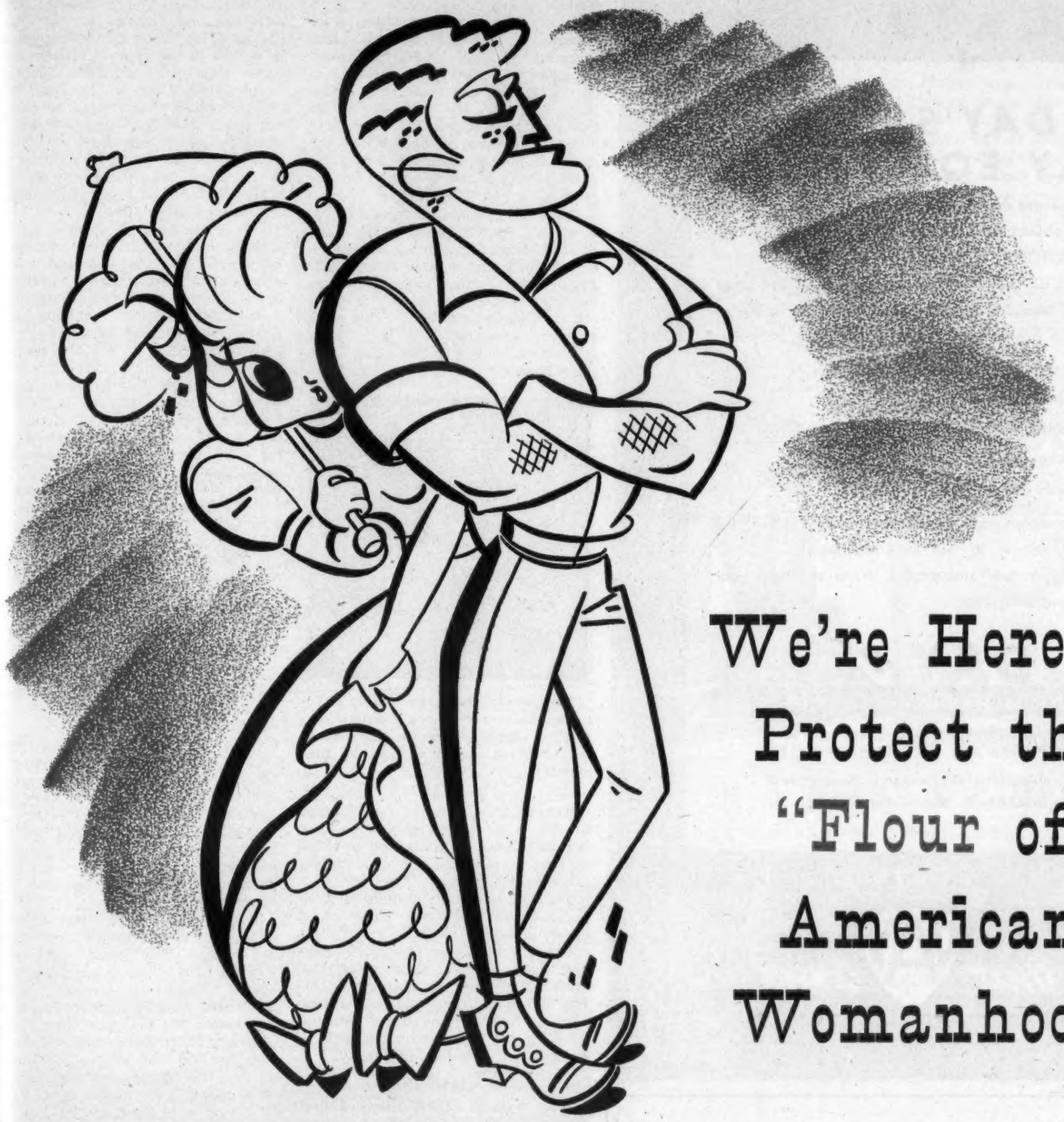
is attained in the HAAKY OVERTOP, employing a slowly rotating perforated drum. On the rising ride of drum, the grain is fed through the perforations from the outside to inside of drum, then drops to bottom of drum and through the perforations again to the outside, removing any kernels that may become lodged in the perforations. Here is real self-cleaning action! Larger foreign grains and roughage are carried over the top of the drum to discharge spout. Entirely rotary motion, all steel construction; grain handling parts enclosed for cleanliness.

CAPACITIES 400- TO 3,000-BU. PER HOUR. Scalps all kinds of grains. For the bigger capacities, the Double OVERTOP (shown above) is used. For smaller capacities, the single drum sizes. Machines are furnished with or without fan and aspirating top.

Write for Full Information

HAAKY MANUFACTURING CO. 513 VANDALIA ST. ST. PAUL 4, MINN.

ASPIRATORS • SEPARATORS • SCOURERS • SCALPERS



We're Here to Protect the "Flour of American Womanhood"

That's one of our most important jobs—making flour bags of every size and description... and making them with surplus strength, so as to protect your products in any handling or shipping situation. Whatever the type, if you want a superior bag, well designed and well made of quality material, call your Bemis representative.

BEMIS BRO. BAG CO.

Baltimore • Boston • Brooklyn • Buffalo • Charlotte
Chicago • Denver • Detroit • East Pepperell • Houston
Indianapolis • Kansas City • Los Angeles • Louisville
Memphis • Minneapolis • Mobile • New Orleans

New York City • Norfolk • Oklahoma City • Omaha
Orlando • Peoria • St. Helens, Ore. • St. Louis • Salina
Salt Lake City • San Francisco • Seattle • Wichita
Wilmington, California

BEMIS BRO BAG COMPANY

TODAY'S BUYS in DAY EQUIPMENT

While current shortages in sheet metal limit the production of DAY DUAL-CLONE DUST COLLECTORS and DUST CONTROL SYSTEMS, we still have substantial stocks of 10, 12, 14-gauge and some 16-gauge sheet metal. These are most practical for many products which we are fully equipped to fabricate, including:

Leg Boots, Heads and Casings
Metal Mill Spouting
Tanks, Bins and Hoppers
Exhaust Fans, Special Products
Heavy Duty Dual-Clones

DAY'S complete modern facilities and long experience can be helpful to you in equipping for greater efficiency, safety and profits. Write us about your needs—no obligation.

The DAY Company
3 PLANTS for SERVICE and SAVINGS to YOU

In MINNESOTA—Home Office and Plant
822 THIRD AVE. N. E., MINNEAPOLIS 13
In MISSOURI—1820 Harrison St., Kansas City 8
In CANADA—Ft. William, Ont., P. O. Box 70

DAY Dust Control SINCE 1881

DO you know your insect pests? Do you know what fumigant will best get at the source of your insect infestation? Do you know how best to apply that fumigant to get the most effective kill from it?

Fumigation is a specialists' job. It takes "know how," "know when," and "know what," to keep a mill clean and insect free. Our fumigation engineers "know."

COAST TO COAST

Write or call

The Industrial Fumigant Co., Inc.
5955 West 65th St., Chicago
Portland, Ore. 704 N.E. 68th St.
Minneapolis 216 Hodgson Bldg.

PAPER SACKS FOR MILLERS
The Chatfield & Woods Sack Co.
CINCINNATI, O.

MILL COGS
We make ALL kinds. Specialize in "Ready Dressed" cogs which are READY TO RUN the moment driven and keyed. Write for circular "DW" and instruction sheets free.
The N. P. Bowsher Co., South Bend, Ind.

Africa along the Mediterranean, it is common practice for the farmer to put his grain underground, or loose in piles on the ground with straw underneath and a straw and earth covering. In Egypt the farmer stores his grain in sealed earthenware jars on the roof of his mud hut. These jars, probably the forerummer of the silo types of storage, each hold about 200 lbs of grain. When the grain is placed in these jars some wood ashes are mixed with it for the purpose of repelling insects.

Commercial grain storage in Egypt is usually in "Shaunas," small plots of land about a city block in size enclosed by a barbed wire fence. The grain is piled either loose or in bags on the ground, and usually is without covering of any sort. This same practice is followed in the Sudan. Elsewhere in the Middle East commercial grain is stored in sheds or

The picture above was taken in Teheran, Iran, and shows a native carrying a supply of bread of the "Sankha" type, a common type in that country.

warehouses. There is no elevator or silo type of storage except at a few of the largest mills, and at three or four state-owned grain collecting and cleaning plants in Iran.

During the war the milling and distribution of flour was under strict government regulation. In order to make it unnecessary to import wheat and flour, thereby saving food materials and shipping space, long extraction flours and the full utilization of local grains were required. This meant a mixed dark colored flour of variable baking quality.

Stone Mills Utilized

For producing this kind of flour the stone mills were more suitable than roller mills because of their simpler operation and lower cost of production. Consequently, many of the modern mills were closed down while the stone mills in the vicinity were doing a flourishing business. On the island of Cyprus there were seven or eight roller mills, all of them shut down. All of the flour milled there was made on stone mills. In Lebanon and Syria about half of the modern roller mills were not operating. In Palestine, Iran and Egypt the roller mills fared better, for the reason that there was not enough stone milling capacity available at the sources of grain supply to seriously hurt the roller milling business. Also, the roller mills in these countries were to some extent helped by government favoritism in the matter of milling contracts.

The breads produced in the Middle East for the native population are quite different from our breads. They are of several types and in most cases of two classes, a luxury and a common class. The luxury breads are made from the better and purer wheat flours, and the common breads from long extraction flours produced frequently from mixed grain. War conditions, of course, lowered the quality of the flour for both classes. In regard to the type of breads produced, this varies somewhat in different parts of the Middle East, but all are made with simple formulas and nearly always with sour dough as the leavening agent.

In the larger cities, in addition to the native types, there are always available European types of bread for the foreign population.

The Palestine and Cyprus breads are the nearest to the European type. They are close textured and somewhat flat in form, but not nearly as flat as in other Middle East countries.

In Egypt, Syria, Lebanon and Arabia the common bread is a puff or pancake type. It is a disc shaped, hollow loaf, about 1 inch thick and 9 or 10 inches in diameter. It is baked in such a way as to form a tough, nonporous crust. This characteristic causes the upper crust to puff up when the heat of the oven expands the fermentation gases. This puffing tendency results in a large-scale rupture of the intercellular structure, thereby creating a hollow loaf. Upon cooling, the loaf collapses but the rupture remains. This cavity frequently is used as a receptacle for other food. When so used, the bread is eaten in a similar manner to the American sandwich.

Bread in Iran "Peculiar"

The breads of Iran are the most peculiar of all. They are of three varieties. These are known as Sankha, Lavash and Kouka. The first is estimated to constitute 80% of the bread consumed in that country. It and the Lavash type are of ancient origin, but the Kouka type originated only about 10 years ago. Lavash is the most desired, but the most expensive. Usually it is baked only in the homes of the rich, whereas Sankha and Kouka are the chief commercial breads.

All three of these breads are made from doughs prepared with the same ingredients—flour, water and salt—and with sour dough as a leavening agent. Sankha and Lavash, however, are made with a slacker dough and fermented much longer than Kouka. Another difference is that the doughs for the first two are rolled out into large sheets of noodle thinness, whereas, that for Kouka is not rolled, but rather is hand-shaped into flat, round or oval shapes. Sankha is baked on pebbles placed in the oven. Its time of baking is about 15 minutes. It comes from the oven in a fairly moist condition in a sheet approximately 2 feet long, 1 foot wide and ⅛ to ¼ inch in thickness. Lavash is baked in a barrel- or dome-shaped oven by plastering the thin sheet of dough on the hot oven wall or dome. After about 10 minutes of baking it is peeled off the wall. When fresh, this and the Sankha variety of bread are slightly moist. Both dry out rapidly, however, because of their thinness. Kouka bread is hearth-baked similar to European breads, but is pancake shaped. Although rather soggy in texture, it is of a cellular structure, a characteristic absent in the other two breads. Twenty minutes are required in its baking. It is produced both in round and oval, flat styles. The round style is about 12 inches in diameter and 2 inches thick.

Grain Milling Methods Vary

The milling of grain in the Middle East covers a wide assortment of

"As Dependable as it is British."

CANMORE BRAND

PURE
SILK BOLTING CLOTH
AND GRIT GAUZE

THE NAME OF CANMORE STAMPED ON SILK BOLTING CLOTH AND GRIT GAUZE IS A GUARANTEE OF A BRITISH PRODUCTION FROM PURE SILK OF THE FINEST QUALITY AVAILABLE AT PRESENT.

THIS BOLTING CLOTH IS WOVEN IN SCOTLAND UNDER THE SUPERVISION OF SWISS TECHNICIANS.

TELEPHONE ROCHDALE 3167 TELEGRAMS Robinson, Rochdale
THOMAS Robinson & SON LTD
ROCHDALE ENGLAND
LONDON OFFICE AFRICA HOUSE KINGSWAY W.C.2 Temple Bar 0330

The Bag Line is Our Life Line

Farmer Jones probably pays more attention to the bags his livestock feed comes in than we sometimes realize. That's why so many millers and feed packers standardize on M. J. Neahr Quality Textile Bags.
If you are not now using Neahr quality bags consult M. J. Neahr & Company. We believe it will be the means to better bag packaging for you.

M. J. NEAHR & COMPANY
1600 SOUTH DEARBORN STREET • CHICAGO 16, ILLINOIS
THE CHICAGO BAG FACTORY SINCE 1855 • BURLAP, COTTON AND PAPER BAGS

The BARNETT & RECORD CO.
MINNEAPOLIS, MINN.
DESIGNERS *BUILDERS*
Grain Elevators—Mill Buildings—Industrial Plants

A. E. BAXTER ENGINEERING CO.
Designers and Engineers for Mills, Elevators and Feed Mills
344 DELAWARE AVENUE BUFFALO, NEW YORK

ANNOUNCING AVAILABILITY TO
THE MILLING AND ELEVATOR TRADE

THE HERSEY
DUST COLLECTOR

A NEW HIGH CAPACITY HIGH EFFICIENCY
FULLY AUTOMATIC DUST FILTER
DESIGNED EXPRESSLY TO MEET
FLOUR MILL AND ELEVATOR REQUIREMENTS

SPRAKE & CO.
1517 SMITH TOWER
SEATTLE, WASH.
MANUFACTURERS AND DISTRIBUTORS

WESTERN Waterproofing Co.
Syndicate Trust Bldg., ST. LOUIS, MO.
Kansas City Office, 417 Finance Bldg.
Charlotte, N. C., 815 Commercial Nat'l Bank Bldg.
Atlanta, Ga., 829 Healey Bldg.
Springfield, Ill., 920 Myers Bldg.

The Southwestern Laboratories
KANSAS CITY, MO.
GRAIN - FLOUR - FEED

BAGS
BURLAP, COTTON
PAPER PLAIN OR PRINTED
TRUCK COVERS
TWINES
MAX KATZ
BAG CO.
INDIANAPOLIS, IND.

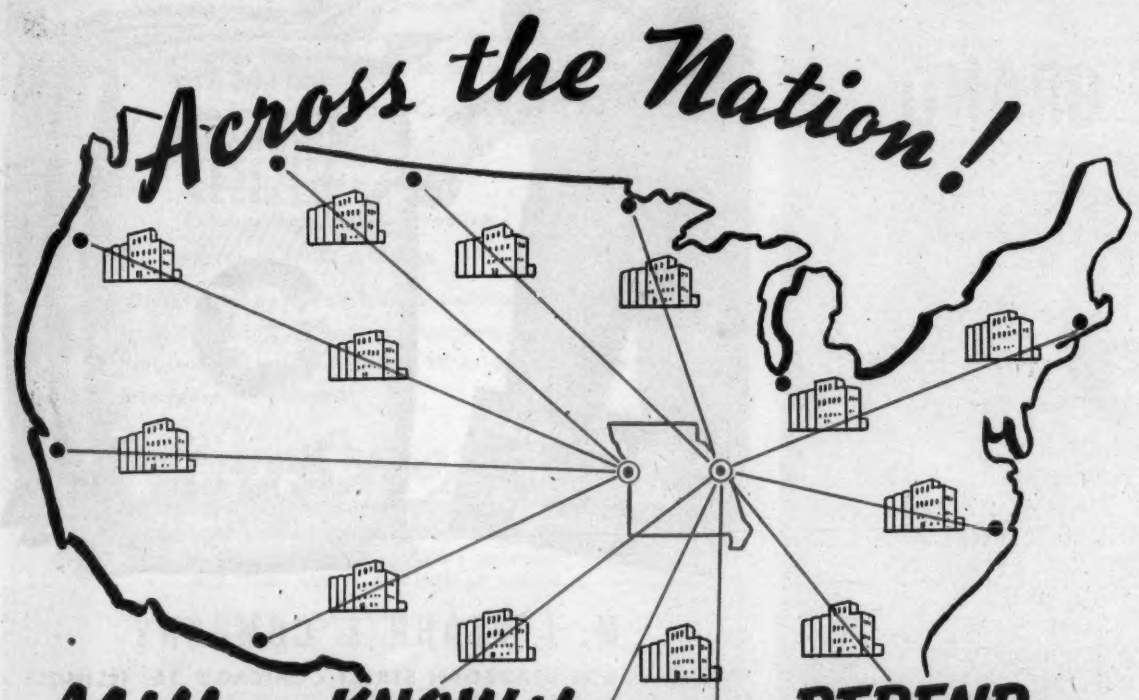
ROLL GRINDING
and CORRUGATING
Also NEW ROLLS *for Sale*
TWIN CITY MACHINE CO.
Minneapolis, Minn.

methods from the most primitive to the most modern. Stone mills predominate. Some of the stones used are of the French buhr type, some of granite, some of hard sandstone, and some artificial stone. Hammer and attrition mills and single stand roller mills are common. The latter are of 2-, 3- and even 4-pair high type. The modern roller type of mills are found only in port cities and the very largest interior cities. All mills, except those doing custom milling, have a fairly complete line of cleaning equipment. In the case of custom mills, the customer is expected to bring only clean grain to the mill.

Because of the dirt and filth present in this native grain, every pound of it should be washed before grinding. The importance of washing is generally recognized, and in some of the Middle Eastern countries is compulsory equipment in commercial mills. Such mills also have stoners.

An intimate description of some of the mills visited and of some of my experiences might be of interest to you.

In Aleppo, a large city in Northern Syria, the mills, both stone and roller types, are distinguished for having stone arch ceilings which, although not very suitable, are nonetheless very beautiful and antique looking. My visit in this city was chiefly notable for my being arrested and fined for using a taxicab with a license plate of uneven numbers on a day when only even-numbered license plates were supposed to be used. My taxicab was one that I had hired in Beirut, about 200 miles to the south, for touring the country, and neither the chauffeur nor I was aware of this unusual regulation. I protested very vehemently as did also a British army colonel who accompanied me, but to no avail, even though we were on a public service mission.



Millers KNOW they can DEPEND on ESSMUELLER SERVICE

Our reputation for dependable service to the Milling Industry throughout the nation didn't just happen . . . not by a long shot! For, since the first day we opened our doors for business, the true meaning of the word SERVICE was firmly embedded in our founder's plans for future expansion.

This idea of SERVICE being inborn, as it were, has prepared us for the increased demands *we knew would follow the end of hostilities.*

Thus, today, with two great plants (one in St. Louis and the other in Kansas City) designed and staffed to serve the industry, we are confident you will never go wrong when you entrust your regular or emergency service or manufacturing requirements to us.

THE ESSMUELLER COMPANY — SAINT LOUIS MO. — KANSAS CITY

The ESSMUELLER Company

SAINT LOUIS 4, MISSOURI KANSAS CITY 1, MISSOURI

At Damascus, just outside the city gate made famous by Paul's vision of the resurrected Christ, I visited an unusual waterpower stone mill located astride an irrigation ditch built by the Romans. It was a top runner type and had no housing or feed hopper. The millstones were the largest that I have ever seen, probably five feet in diameter. The ground flour stock was thrown out from between the stones directly to the floor all around their perimeter while attendants tramped through it in their bare feet to pour grain into the eye of the stone from a hand scoop. This mill did only custom milling and the grain was brought to it in grists of a bushel or two at a time. It had no cleaning equipment, except a watering trough where the customer had the privilege of washing his grain by putting it in a wicker basket and dunking it in the trough. After each grist was ground the resultant flour product was scooped from the floor and given

Shown in the picture above is the spring that is the beginning of a stream that furnishes water power for a number of flour mills on the island of Cyprus.

to the customer without having been bolted.

In Jerusalem, I visited a stone mill located within 50 feet of the tomb from which the Protestant Christian churches claim Christ arose. This mill consisted of three pairs of stones operating on a platform or husk and all discharging directly onto an open gyrating sifter. The miller was a big, genial looking, bearded Arab. The man accompanying me was a Jew who had charge of the milling regulatory work for the country. Both knew each other because all milling was by government contract awarded by my companion. When we entered the mill, and the miller became aware of our presence, he immediately came up to my companion and embraced and kissed him, probably out of gratitude for the contract he had been awarded. None of the Arab-Jew animosity we read so much about in the papers was displayed in this meeting.

Water Power in Cyprus

In Cyprus, a lovely island with an interesting ancient history, there is a sizable stream of water which gushes from a rock crevice far up the side of a mountain. (See picture.) The source of this water is a mystery, but it serves a useful purpose. This stream supplies the power for operating 36 stone mills. I was taken to the point where this stream issued from the rock crevice, and I visited some of the mills. One was being operated by a woman.

A Modern Mill in Iran

My crowning milling experience in the Middle East was in the city of

Teheran, the capital of Iran, operating the largest and probably the most modern mill in that part of the world. This mill is now being operated by Perie Rumold, whom many of you know. I was asked to supervise the operation of this mill for a six-week period during the temporary absence of the regular wartime operator, an Englishman who wanted to return to his home in Malta for a short visit. This mill, owned and operated by the Iranian government, was constructed in 1939 by the Persian Shah as a part of his efforts to modernize his country. It is fully automatic and complete in every detail, except that there is no laboratory or any kind of laboratory facilities. Its mechanical repair shop is the most complete that I have ever seen in a mill and includes roll grinding and corrugating equipment. This mill has a daily grinding capacity of approximately 225 tons and has modern silo-type storage capacity for 2,333,000 bus of grain.

The purpose of having a United Nations man supervising the operation of this mill was mainly because many of the natives were sympathetic to the Axis cause and could not be trusted. The operation of this mill was very important to the welfare of Teheran, a city of 500,000 people. It is the only mill in or near the city except for a few stone mills which are incapable of supplying anywhere near the quantity of flour required for feeding the city's inhabitants. Because of the prevalence of Nazi sympathies among the people, sabotage was so common that one had to continually guard against it. I experienced several such acts during the period that I was in charge of the mill. All my trouble, however, was not due to sabotage. Much of it was due to the inferiority of the equipment which is of Russian make.

When I arrived at the mill, a number of machines were out of commission or in poor working order, and when I left the situation was even worse. In the grain cleaning department all of the scourers, one of the milling separators, and one of the dry stoning machines were out of commission. In addition, the grain was bypassing the magnets for collecting metal fragments because of wornout spouts, and there was only one washer operating, whereas two were required. A second one was in the process of construction.

Trouble and More Trouble

My operation troubles included strikes; newspaper besmirching of my native top assistant who was trying to co-operate with me; labor delegations protesting that the pay was too low (and it was); wornout rolls; the twisting in two of one of the main drive shafts; the smashing of a flour mixer and of the one and only washer; the breaking of a wetting conveyor shaft; and the slashing of the conveyor belt which carried the grain from the storage elevators to the mill.

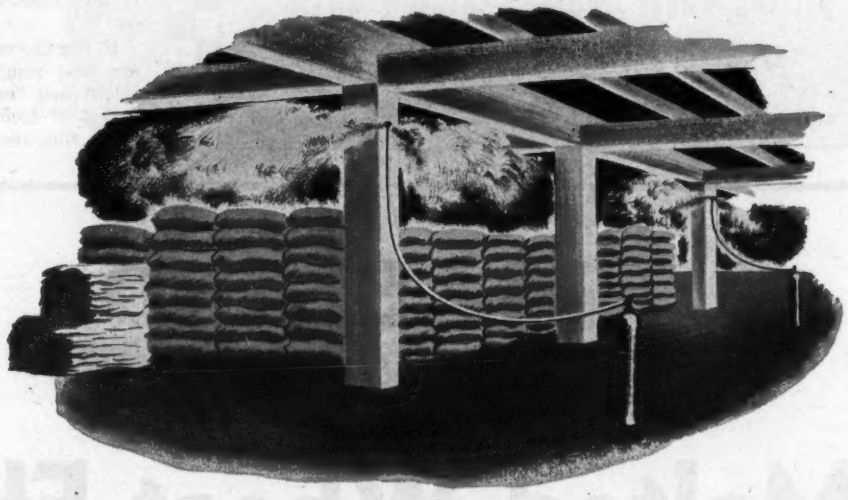
These troubles were intensified by the difficulty of getting managerial action and employee co-operation in making the repairs. Despite all of these handicaps, the mill was kept running; in fact it had to, otherwise there would have been a shortage of bread in Teheran. Such a situation would have had serious political effects because in that part of the world bread is really the staff of life. Some of the time I had to operate on part capacity and without washing any of the wheat. The wheat that went to the rolls usually had about 5% of dirt in it and frequently was musty and foul-smelling besides. The wheat was ground to 100% flour extraction. I wanted to scalp off the fibrous material to the extent of 2 or 3%, but was not permitted to do so.

With this 100%—or should I say 105%—extraction wheat flour, we were required to mix a 97% extraction barley flour and some imported infested wheat flour in about the proportions of 60, 30 and 10, respectively. The barley flour came to us as whole grain flour from outside sources, ground on millstones. It contained even more dirt and filth than the wheat flour that I was making. We sifted it and reground the coarsest material, after which we scalped off the fibrous material for sale as animal feed at a low price. In this connection, I might add that by-product feeds have little sale all through the Middle East. Although they could be used to good advantage, the farmer has no money with which to buy them. Even cottonseed cake, the rich protein residue from oil extraction, is bypassed by the farmer with the result that its principal use is that of fuel. The "tiben" previously referred to is about the only supplemental feed the farmer can afford for his livestock.

Bread of Poor Quality

Needless to say, the bread baked from my flour mixture was of very low quality. It was nearly black in color, gritty and frequently had a disagreeable flavor. There was some complaint about it, and because of its poor quality there was some black marketing of better quality flours for private use. This, however, was not a serious threat to my mill's production for the reason that the country's supply of grain was barely sufficient for its needs, and since each produc-

ONE OF 13 DOW CHEMICALS USED BY THE FOOD INDUSTRY



CUT fumigation SHUTDOWNS—SAVE VITAL MANHOURS!

Methyl Bromide

The penetrating fumigant

Dow Methyl Bromide gets the fumigating job done more quickly—often overnight. This speedy action is possible because Methyl Bromide penetrates infested materials faster than most fumigants thus permitting a shorter exposure period. In addition, Methyl Bromide can be aerated quickly—generally in two hours or less. Further savings in time can be gained by performing prefumigation tasks while the mill is still in operation. Together, these savings result in a minimum loss of working time, increased production, and lower overhead.

Methyl Bromide accomplishes a complete kill of insects and rodents . . . is economical . . . can be used with minimum of equipment . . . is harmless to most food products.

We will be glad to send you more information or put you in touch with a competent industrial operator specializing in food fumigations.

Write for information on the simple screened box test to determine the effectiveness of your fumigations.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

er was required to surrender to the government grain collectors all of his grain except barely enough for his individual needs, there wasn't much grain available for black market operations.

What I have said thus far concerns conditions during a war period. Some of these conditions, of course, are a permanent part of the picture but some apply only to the war period. For instance, in peacetime the quality of flour used is much superior to that I have described and there is a definite trend toward the roller type of mill. Wheat is preferred as a bread grain, but in most of the countries its production is insufficient to supply domestic needs. This situation results in some import demand for foreign flour and wheat in normal times. This has been true in the past and should be true in the future.

Regarding future mill construction and equipment possibilities in the Middle East, there are definitely some excellent sales opportunities. Machine replacements are sorely needed and many stone mills are anxiously awaiting an opportunity to convert to the roller process. There is plenty of money available, too, for making these purchases, because the war brought prosperity to this part of the world, at least in terms of foreign exchange.

CHECKERBOARD ELEVATOR CO.
MILLING WHEAT • COARSE GRAINS • MILLFEED
Hard and Soft Winter Wheat
ST. LOUIS • KANSAS CITY • MINNEAPOLIS • DENVER • BUFFALO

GETTING THE MOST OUT OF A BELT

IN flour mills, and more particularly in feed mills and grain elevators, the conditions under which a belt must do its work are far from favorable. The importance of systematic belt maintenance is even greater under these circumstances than it is in many other industries.

From the removal of the hide to the finished product, everything known is done to make the leather fit its purpose, and a consideration of the skill and time that have been applied in the manufacture of a belt may lead to a better understanding of the essentials of the care of belting.

In the process of tanning, the hides are first roughly cleaned, and then salted and "cured" in storage for a period of from four to eight weeks. After this, they are more thoroughly cleaned, soaked in another solution to facilitate the removal of the hair, and washed carefully before the tanning begins. For belting purposes the period required for the tanning is longer than is usual for other types of leather.

Tannic acid, procured from the barks of trees, is applied to the hide in gradually strengthened solutions. From each solution the hides are put in storage vats where they are sprinkled with ground tan bark and allowed to stand for varying lengths of time. The parts of the hide that are more easily tanned are cut away as the process goes on, and after the last period of storage in the tan bark the hides are carefully dried under controlled temperatures. The "rough leather," as the product is termed after being tanned, undergoes several operations, the most important one, in so far as the upkeep of a belt in service is concerned, being called "stuffing." This means the forcing of a lubricant among the fibers, giving flexibility and the sustenance of a long life for the leather. The length of service of a leather belt, however, depends to a great extent on the replenishing of this supply of "food," and the dusty conditions under which the belt must operate in milling plants require the "feeding" of the leather more often than is usual. Therefore, it is essential that the surface of the belt be kept clean, and that a proper dressing containing a beneficial oil be applied at stated intervals. Gummy and sticky dressings are not the proper diet, and are likely to do the leather more harm than good, leaving it with a badly glazed surface that will, in time, have to be removed before the power delivered is anywhere near the maximum.

Excessive belt tension, one of the most costly wastes in connection with the transmission problem, will not be required if the belt is kept in a soft, pliable condition. The normal operating tension of a heavy single belt has been found to be about 36 lbs per inch of cross width, or 300 lbs per square inch of cross section. In mills it is often necessary, if the belt is to deliver its rated h-p value, to use tensions of from 50% to 100% in excess of that recommended by the manufacturers. This causes, of course, the breaking down of the fibers of the belt, and lowers the tensile strength of the leather accordingly. If the cause of this weakening is not corrected, delayed production schedules and repair bills, due to a broken belt, are likely to be the result. Another factor to take into consideration is that excessive tension also means excessive lubrication, extra wear on bearings and shafting, and the possibility of bearing failures.

An important step toward more economical belt maintenance is that of detailing a reliable man to take care of this equipment. A record should be kept by him of all the belts, including fabric and rubber as well as leather, their condition, the periods at which they have been cleaned and dressed, and so on.

By careful observance, this man can eliminate a great many of the common causes of belting failure, such as running off center and rubbing on floors and machinery.

DIABLEND
Top Quality
Malted Wheat Flour

It is essential that your hard wheat flours bake consistently to your established standards. But improper diastatic treatment can spoil your most careful wheat selection and milling methods.

DIABLEND malted wheat flour assures you of uniform quality and quantity of diastatic action. Selected wheat is malted in our own malt plant under automatically controlled atmospheric conditions. DIABLEND is manufactured to a standard level of maltose, milled so it is free flowing for accurate feeding.

We will provide samples for experimental work in your own laboratory, or you may send to us samples of your untreated flours for analysis. Maltose or gassing power analyses in our laboratory are free to DIABLEND users. Ask for a sample and quotation of DIABLEND today.

B. A. ECKHART MILLING CO.
1300 W. CARROLL
CHICAGO, ILLINOIS

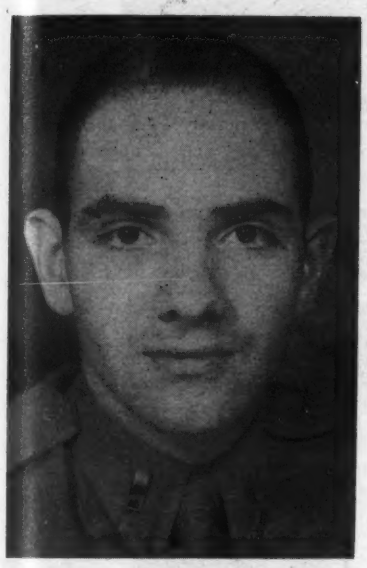
Some Observations on 80% Flour Milling

By Joseph E. Robertson

Superintendent, Ewing (Indiana) Mill Company

THE major changes for milling 80% extraction flour have now been completed, discussed and cussed by most millers, but frequent minor changes are still being made by alert operatives as they learn more about the long extraction process and become encouraged by comments regarding quality.

An early inclination on the part of both management and operatives was to overlook the fact that paragraph (k) (1) of WFO 144 specifies that extraction shall be at least 80% (with the result that some 77-79% flour was unintentionally milled at first) has gradually been corrected and millers are becoming convinced that extractions of 80.5% to 81% are



Joseph E. Robertson

absolutely necessary to take care of changes in wheat mixes, interrupted production, etc., and to allow a reliable "margin of safety" for compliance with the order. The early fears in regard to flour quality have been, in a great measure, alleviated by the ability of most bakers to use the flour quite successfully without consumer complaint of any consequence.

In general, millers have agreed that a number of basic changes were necessary to accomplish 80% extraction. Among these changes were: (a) Greater break releases, in the neighborhood of 90% total. This, of course, results in the production of smaller bran flakes. (b) Installation of finely corrugated or "scratch" rolls for efficient reduction of coarser tailings stocks. (c) General coarsening of bolting cloths. (d) Slightly less temper on most wheats. (e) Some "return" or "wallowing" of the tail stocks back up on the mill in order to better distribute the mill load. This is avoided much more easily in long mills than in shorter systems. (f) Harsher feed dusting resulting in a considerably increased recovery of usable stock from shorts and bran. (g) Slightly more chlorine application for proper treatment; however, mills bleaching to constant pH are advised that the levels should be raised 0.1 or 0.2 if a tendency toward drastic gluten breakdown and early rancidity is to be avoided.

One point, however, in which there still appears to be a pronounced difference of opinion is whether the "coarsening" of bolting cloth should take place at the head or at the tail of the mill. One school of thought advances the theory that preserving the status quo of the flour cloths at the head end will keep the mill in balance and produce enough high quality flour to carry the undesirable low grade flours and fine bran stocks which must then be thrown in through cloths in the neighborhood of 8XX to 10XX on the tail end. Others advance the theory that it is better to bolt the good flour through coarser cloths on the head end, and thereby be able to do forced or "bare" bolting of the undesirable stocks through 12XX and 13XX on the tail. The question resolves into whether we shall have fine flour and coarse feed, or coarse flour and fine feed in the finished product.

It is the writer's opinion that each

How much of your business in self-rising flour results from repeat sales?... Sales that are made again and again, because users continue to rely on the kitchen performance of your product?

Any manufacturer who wants the right answer to this self-rising sales question welcomes Monsanto HT Phosphate. It is well known for constant uniformity—its quality is exceptional, since it is derived from Monsanto refined phosphorous of better than 99.9% purity.

MONSANTO CHEMICALS

Also, manufacturers welcome the assistance of Monsanto kitchen laboratories—where Monsanto will bake test your product and offer any suggestions for improvement or changes that may be found desirable. Or, samples will be sent if you prefer to conduct your own experimental tests. In either case, write: MONSANTO CHEMICAL COMPANY, Phosphates Division, 1700 S. Second St., St. Louis 4, Mo. Branch Offices: New York, Chicago, Boston, Detroit, Cincinnati, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

Offered Especially to Millers
for Adequate, Safe, Certain Enrichment of

80% EXTRACTION FLOUR -

New
*BROWN LABEL
VEXTRAM
WINTHROP'S BRAND OF FLOUR-ENRICHMENT MIXTURE
PATENT APPLIED FOR

*Winthrop Chemical Company's recommended formula for adequate enrichment of 80% extraction flour

MILLERS who will enrich 80% extraction flour with *new* Brown Label "VEXTRAM" as recommended, won't be taking chances, because Brown Label "VEXTRAM" will consistently deliver *a more than ample amount of required nutrients*—a guarantee against inadequate enrichment and serving to take care of vitamin-mineral variations of the flour! Brown Label "VEXTRAM" is a safe, all-purpose formula for adequate enrichment of 80% extraction flour.

In addition to *new* Brown Label "VEXTRAM" we will continue to make available to millers—coast to coast—

- **BLACK LABEL "VEXTRAM"**

(meets MNF formula requirements for *minimum* enrichment of 80% extraction flour, but is *lower* in Riboflavin and Niacin content than Brown Label "VEXTRAM").

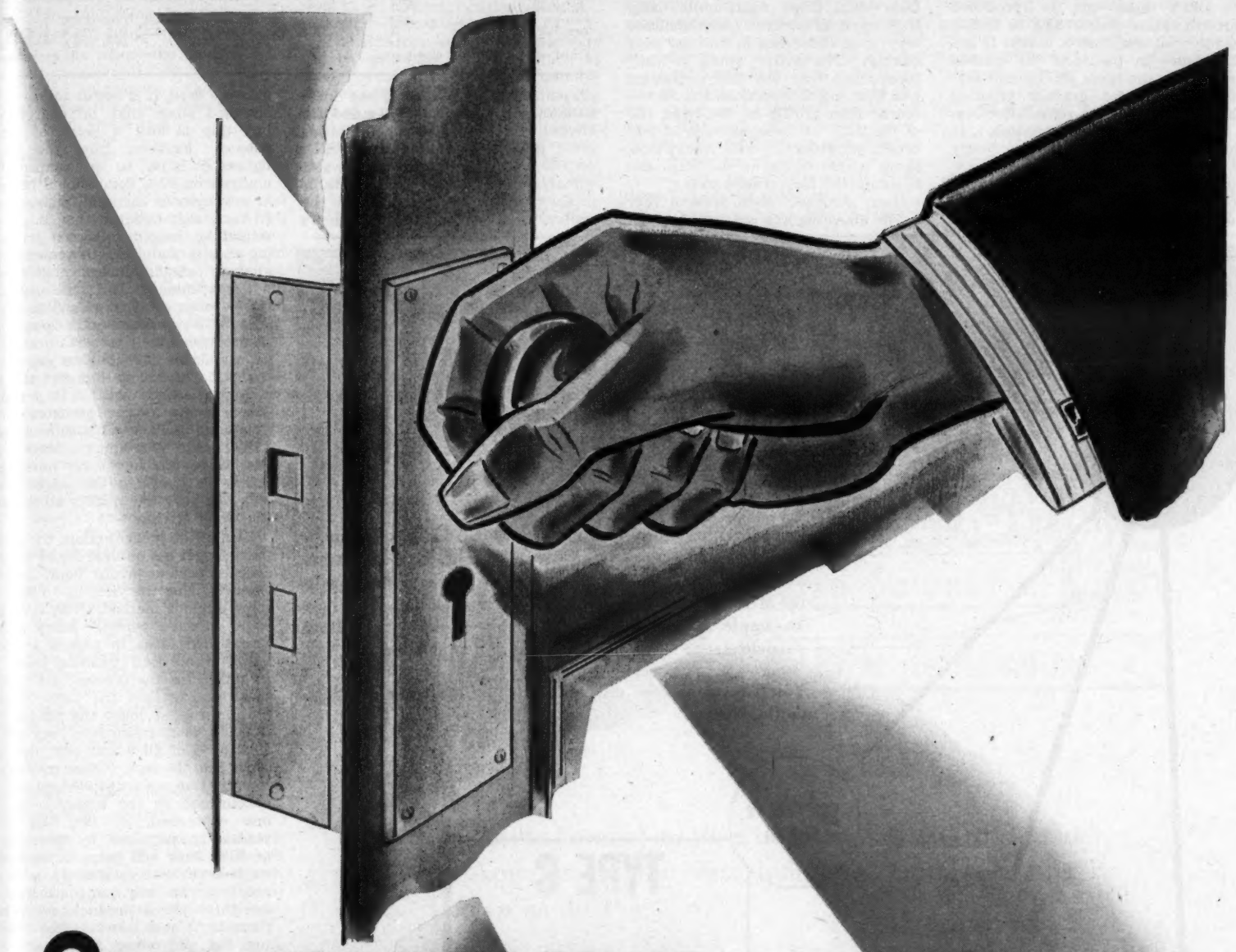
For the enrichment of 72% extraction flour as approved for export to Latin American countries, we have available—

- **RED LABEL "VEXTRAM"** (single strength with S. I. P. P.)
- **PURPLE LABEL "VEXTRAM"** (single strength with reduced iron)
- **YELLOW LABEL "VEXTRAM"** (double strength with reduced iron)

Consult our Technically-Trained Representatives on ENRICHMENT and BLEACHING

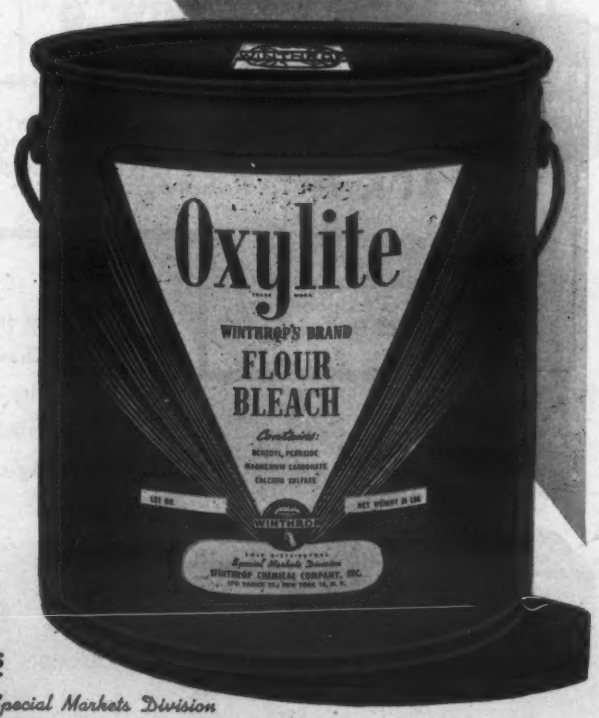
Address Inquiries to—
Special Markets Division
WINTHROP CHEMICAL COMPANY, INC.
170 Varick Street, New York 13, N. Y.

STOCKED FOR QUICK DELIVERY AT NEW YORK, CHICAGO, KANSAS CITY (MO.), DENVER, LOS ANGELES, SAN FRANCISCO, PORTLAND (ORE.), DALLAS AND ATLANTA



OPEN YOUR DOOR TO Oxylite

WINTHROP'S BRAND OF FLOUR BLEACH



INVESTIGATE TODAY—*THE FLOUR BLEACH OF TOMORROW!*

Use "OXYLITE" in your present equipment—
No Changes in Procedure Necessary!

Right now is the time for you to get acquainted *first hand* with "OXYLITE", Winthrop's brand of flour bleach.

In "OXYLITE", Winthrop offers millers a superior bleaching agent, due to a *New Manufacturing Process* (patent applied for). Flour Mills throughout the U. S. A. who have used "OXYLITE", report it to be all we claimed for it—*More Efficient Color Removal!*

"OXYLITE" is the finished product of an organization thoroughly experienced in the synthesis of organic chemicals.

WINTHROP

Special Markets Division
WINTHROP CHEMICAL COMPANY, INC.
170 Varick Street, New York 13, N. Y.

Consult our technically-trained representatives on Bleaching and Enrichment, or write us direct.

"OXYLITE" IS STOCKED FOR QUICK DELIVERY AT NEW YORK, MINNEAPOLIS, CHICAGO, CINCINNATI, KANSAS CITY (MO.), DENVER, SAN FRANCISCO, PORTLAND (ORE.), DALLAS, ATLANTA

miller must individually determine his own policy in the above regard. It is believed, however, that if flour of good quality (in the neighborhood of 0.40% ash) can be produced through coarse cloths (8XX to 11XX) on the head end, then it is best to get this flour "in the sack" as quickly as possible and leave all the mill surface possible for gradual grinding and bolting of the remainder into a flour size and granulation. It should be understood that this "early in the sack" policy is violently disputed by some very reputable millers who are operating long system mills and who maintain that they should not throw their mill "out of balance" or their belts off of any grinding equipment.

Preliminary analyses and baking tests with flours from mills using both methods outlined above indicate very little difference in finished flour quality. The writer would strongly recommend that any mill employing less than eight reductions should use coarse flour cloths on the head end of the mill. A mean average of mill break, six reduction soft wheat mill, using coarse cloths on the head end is submitted for consideration:

stream analyses taken from a four

Stream	Ash %	Approximate percentage Flour bolting cloths
1st, 2nd & 3rd breaks..	0.41	25%-8XX, 40%-10XX, 10%-11XX, 25%-12XX
4th break	0.85	100%-10XX
1st midds.	0.38	20%-9XX, 40%-10XX, 40%-11XX
2nd midds.	0.42	20%-8XX, 20%-9XX, 40%-10XX, 20%-11XX
3rd midds.	0.51	50%-11XX, 50%-12XX
Sizings	0.52	10%-9XX, 40%-10XX, 30%-11XX, 20%-12XX
Tailings	1.40	10%-9XX, 20%-10XX, 30%-11XX, 30%-12XX, 10%-13XX
Low grade	1.70	50%-12XX, 50%-13XX
Finished flour	0.56-0.65	(Definitely not guaranteed)

The above figures are certainly not presented as representing an ideal situation or as a reliable guide for anyone, but are merely offered as proof that it is possible to use 8XX on the head end—at least on a soft wheat mill—and get an acceptable product with 80% extraction. To the writer, it appears that if 8's or 9's must be used, it is better to use them on good stock than on poor stock, but this is still a point of much debate. Further, from the above figures, it is not to be assumed that analysis on 80% flour should be used in any manner for quality judgment. In fact, it is believed that this flour should be judged solely on its baking merits and that all requests for analysis should be unconditionally not guaranteed. It is the order of the government that this flour be at least 80% extraction and any attempt to produce a flour to certain analytical standards is certain to jeopardize the achievement of that end and the conservation of wheat. If a miller just cannot become accustomed to producing a flour with some specks (as all true 80% flours examined by the writer do have) he must just "shut his eyes" to the introduction of a few very low quality stocks into the flour stream.

During the present crisis, the miller must forget his natural desire to produce a perfect white flour, and to avoid figuring the yield up to 80% by some dubious method. The time has come to save wheat. Many firmly established ideas in regard to flour quality and mill balance must be forgotten for the present and millers must realize that the safest means of assuring at least the proper extraction, is to make sure they get at least 80% of all wheat over the first break into the sack. (Other methods of computation are acknowledged but not encouraged by the writer.) Everyone concerned, so far, has been pleasantly surprised by the quality of 80% flour and there is no reason to believe that consumers will not continue to buy, and thrive on, healthful baked products from such flour until such time as the hungry are fed and wheat stocks are adequate to permit the milling of flour products once more worthy of the miller's art.

COMMITTEE HEAD — D. A. MacTavish, Quaker Oats Co., Peterborough, Ont., was chairman of the general committee that arranged for the annual meeting of the American Association of Cereal Chemists, Niagara Falls, Ont., May 13 to 16.

MATCHING THE MILLER'S REQUIREMENTS

3 types of BI-CAP

In recognition of the wide range of *individual* requirements, three types of Pfizer Bi-Cap Flour Enrichment Concentrates have been developed. Each meets the recommendations of the Millers National Federation as to composition, and allows an ample safety factor. All are finely milled to uniform particle size to facilitate distribution in your flour.

You'll recognize the different types by the color imprinted on the label:

green label — TYPE C — Double strength. Prepared with Reduced Iron (Ferrum Reductum).

brown label — TYPE B — Single strength. Prepared with Reduced Iron (Ferrum Reductum).

red label — TYPE A — Single strength. Prepared with Sodium Iron Pyrophosphate as the source of iron.

Every lot of Bi-Cap passes rigid laboratory tests for quality. At Chas. Pfizer & Co., maintenance of such uniformly high quality is based on vast resources, chemical and biological knowledge, and a near-century of experience as manufacturing chemists.

PFIZER QUALITY

Chas. Pfizer & Co., Inc.

MANUFACTURING CHEMISTS • ESTABLISHED 1849

81 MAIDEN LANE, NEW YORK 7, N. Y. • 444 W. GRAND AVE., CHICAGO 10, ILL.

605 THIRD ST., SAN FRANCISCO 7, CAL.

Chemicals For Those Who Serve Man's Well-Being

Progress Report

(Continued from page 7a.)

progressively softer during fermentation and, when the yeasts were heated to boiling before oxidizing the reducing substances, the poorest yeasts gave their best results in the dough, Mr. Davis said.

Fractionation of Gluten

A gluten fraction much softer and more extensible than gluten which can be reconstituted into bread having quicker mixing properties and yielding longer and finer grained bread than that reconstituted from unfractioned gluten was discussed in a paper, "Fractionation of Gluten by Physical Means," presented at the morning session, May 16.

The experiment, conducted by J. C. Baker, H. K. Parker, and K. L. Fortmann, research laboratories, Novadel-Agene Corp., Belleville, N. J., was prompted by evidence that glutens, washed or purified in very dilute salt solutions, can be violently dispersed in distilled water to a milk-like solution that is indefinitely stable and that such dispersions yield opaque solutions similar to glutens dispersed in acetic acid.

These mechanical dispersions made in an atmosphere of carbon dioxide, upon being supercentrifuged, deposit about 20 to 25% of their protein with this material having properties like glutenin. The remaining gluten in the supercentrifuged liquid can be salted out and yields a glutinous mass that is much softer and more extensible than gluten, the experiment showed.

Review of Developments in Starch Chemistry

A review of developments in starch chemistry during the past six years dealing principally with research work on physical and chemical properties confirming their linear (A fraction) and branched (B fracture) structure was presented by T. J. Schoch, Corn Products Refining Co., Argo, Ill., as part of the symposium on Corn Wet Milling, May 13.

He noted that rapid progress in theoretical starch chemistry during the past few years was initiated by the concept of the starch fractions as the linear and branched glucose polymers. Methods have been developed to isolate these fractions in pure state by selective precipitation with various polar reagents, he said, indicating that iodine absorption analysis has provided a new and very useful tool for characterizing the starch fractions.

Touching on the structure of normal cereal and tuber starches as compared with the waxy starches, he stated that the former contain 20 to 30% of linear component, while the latter are composed entirely of branched component and certain varieties of pea starch tested are almost wholly of linear character.

The botanical function of the fractions is not as yet understood, Mr. Schoch pointed out, although phosphorylase studies have clarified their synthesis in the plant.

Amylose Precipitation in Starch Pastes

A series of colored slides graphically illustrating formations of an amylose complex in hot pastes of cereal starches were explained in detail by M. M. MacMasters as part of the symposium on corn wet milling presented at the May 13 session. The slides were based on research findings of M. M. MacMasters, C. W. Brice, and G. E. Hilbert, Northern Regional Research Laboratory, Peoria, Ill.

The research work in this phase of starch chemistry indicated that the preferential precipitation of amylose by long-chain fatty acids can be utilized as a means for fractioning starch as practically all of the amylose can be precipitated from either raw cereal or root starches by the addition of relatively small amounts of oleic or stearic acid.

The slides indicated how birefringent, crystal-like particles develop within gelatinized granules of raw cereal starches maintained at about 85° C for one to several days but that white potato, sweet potato and glutinous and defatted cereal starches do not exhibit this phenomenon. The birefringent bodies were shown to be a starch long-chain fatty acid complex of which approximately 5 to 6% was fatty acid, present largely as soap. The ratio of amylose to amylopectin in the complex was roughly 3:1. About one third of the amylose of raw corn starch is precipitated in this manner, the study showed.

The speaker noted that extensive studies had been made of the pH changes in starch-water systems during pasting and autoclaving, incidental to the development of the method for fractioning starch. In general, pH changes of a given starch sample were less than variations among different samples of the same species, she said.

Collaborative Research on Analytical Methods

Further illustration of the success of the policy of collaborative research on analytical methods in the corn wet milling industry on non-competitive

★ FAMOUS NAMES IN INDUSTRY ★

Pierre Samuel du Pont de Nemours was the founder, in America, of the vast industrial empire popularly known as du Pont.

Principally as explosives manufacturers, their interests have expanded until now the name du Pont appears on a wide variety of chemical, textile, household and industrial products—as they so aptly proclaim, "Better things for better living through chemistry."

The American miller has long known that he could get "Better flour through SWISS SILK" for SWISS SILK has been his favorite bolting medium for more than a century.

Specify "SWISS SILK"

BODMER • DUFOUR • EXCELSIOR • SCHINDLER • WYDLER

subjects was presented by G. T. Peckham, Jr., Clinton Industries, Clinton, Ia., one of the speakers at the afternoon session, May 13.

"The corn wet milling industry for 12 years has been successfully experimenting with industry-wide collaborative research," he said, conducted on two bases: fellowship and inter-plant laboratory co-operation. Such inter-plant collaboration was necessary because of the wide variance in determination procedures between laboratories, the speaker noted.

He pointed out that fellowships have been established in member companies indicating a willingness to house and supervise the work, with the salary of the fellow and appropriate allowance for expenses paid by the federation. Three such fellowships have been supported dealing with work in the determination of moisture in corn syrup, the determination of moisture in corn and the measurements of the pasting characteristics of starch.

Thus far the inter-plant collaboration has been confined to standardization of analytical determinations applied to the raw materials and finished products of the industry, he stated, and this standardization of analytical techniques now makes it possible that any sample of a product of the industry can be submitted to any laboratory with expectation of reproduceable results.

Mr. Peckham inferred that this collaborative research policy might be used as an example of possibilities for technical co-operation in other industries.

Development of New Viscosimeter

An explanation of how the collaborative endeavor of the corn wet milling industry toward standardization of procedure led to the development of a new type viscosimeter for more accurate analysis was presented by W. G. Bechtel, Penick & Ford, Ltd., Cedar Rapids, Ia., at the afternoon session, May 13.

The paper, "A Viscometric Study of Some Paste Characteristics of Starches," was based on data obtained with the newly developed viscosimeter designed to operate automatically and record the changes in apparent viscosity when starches are pasted.

This data apparently confirms the linear relationship between the logarithm of concentration and the logarithm of maximum viscosity found previously by Anker and Geddes. It also indicates that at higher pH values starches gelatinize more readily and paste breakdown is greater with increasing starch modification and depending on the nature of that modification.

"The apparent viscosity of starch paste is influenced by such factors as the rate of temperature rise, maximum paste temperature, rate of stirring, type and dimensions of stirrer, and evaporation of water," the speaker pointed out, and stated that to "obtain reliable viscosity results these factors should be controlled automatically and be independent of the manipulation of the operator."

Higher rates of stirring cause more rapid paste breakdown and, similarly, at higher temperatures pastes pass through the normal viscosity changes more rapidly and paste breakdown is increased, he said.

Use of Products of Wet Corn Milling

The inter-relation of food fields, not only in Canada and the United States, but on an international basis, was scored by T. J. Otterbacher, Corn Products Sales Co., Chicago, final speaker on the symposium on corn wet milling at the first afternoon session, in a brief but comprehensive discussion of "The Use of Products of Wet Corn Milling by the Cereal Industries."

Mr. Otterbacher, touching on the application of the technical properties of the products of wet corn milling to the cereal industries, pointed to the dependence of agricultural products from one source on the products of agriculture from other sources.

He noted the use of starches in the baking and brewing industries; high sweetening types of syrups used extensively in pies, cookies, and crackers; dextrose in cake baking as a complement to other sugars, and in prepared flours for cakes, pancakes and waffles. He further pointed to the advantages of dextrose in the breakfast food industry on types such as bran and whole-wheat.

The further diversified uses of corn products were listed as feed and steep-water for animal feed, nutrient for yeast and penicillin; greaseproof wrappers for lining packages, paper covering and shellac substitute and oil for pan greasing and deep fat frying.

Starch Component in Bread Staling

Current starch chemistry research indicating a definite relationship between the branched-chain starch component (B fraction) and staling of bread was outlined by T. J. Schoch, Corn Products Refining Co., Argo, Ill., during his second appearance on the program at the afternoon session May 14.

Although this new work in starch chemistry as applied to the bread

Prompt Service

ENGINEERS — MANUFACTURERS
GENERAL MILL EQUIPMENT CO.
KANSAS CITY, MISSOURI

YOU can depend on us for special service when you're in a jam. We will do our utmost to help in case of breakdowns—day or night—Sundays or Holidays. Try us and let us prove the merits of our prompt service.

MANUFACTURERS OF:
ECONOMIST AGITATOR
CONCENTRATE MIXER
HORIZONTAL BATCH MIXER
OVERHEAD TRUCK HOIST
PLATFORM TRAILER LIFT
ROTOMASTER SIFTER and EXPERIMENTAL SIFTER
CARLOADING CANOPY
ROLL TRAM
ROLL DOLLY
BLOWERS

SUPPLIERS OF:
SILK AND WIRE BOLTING CLOTH
ELEVATOR BUCKETS, BELTS
ROLLER CHAIN DRIVES
V-BELT DRIVES
BELTING (Leather, Cotton, Rubber)
BEARINGS
SHAFTING
MOTORS
PULLEYS
CAR DOOR OPENERS
MANY OTHER ITEMS

For Prices, Rush Orders, Information
Telephone
KANSAS CITY, MISSOURI
GRAND 2454

GENERAL MILL EQUIPMENT CO.
2021 PENNSYLVANIA AVE. • KANSAS CITY 10, MO.

staling problem is not in itself proof of the actual cause of staling, it is significant as it exemplifies the use of this type of research to purely practical work and may eventually prove a boon to the bread baking industry.

In the experiment soluble starch was extracted from bread by aqueous leaching and analyzed in relation to dry weight and iodine absorption. The soluble starch extracted from the fresh bread was chiefly the branched-chain component as the linear starch component (A fraction) retrogrades during baking and cooling of the loaf and therefore cannot contribute to subsequent staling.

The research indicated that the decrease in soluble starch during staling can be attributed to progressive growth of the B fraction and that parallel reactions had been observed with pure B fraction from wheat starch having a B-type X-ray pattern similar to that of staled bread.

In the experiment defatted wheat starch pastes were prepared under conditions similar to those of bread baking to study the influence of other ingredients on the rate of staling and showed that salt, protein and yeast had negligible influence, shortening had little effect unless free fatty acid was present and that diastase in the dough may be responsible for the high amount of soluble starch in bread.

The speaker, while noting that the prevention of staling was not a certainty, stated that it may be possible through the use of certain starches that will not give rise to this branchy type of structure.

Use of Amylograph in Flour Malt Control

The value of the amylograph procedure in providing a relatively rapid and simple method for routine flour malt control with a minimum possibility of manipulation error and with a greater sensitivity than the two other methods now in general use was stressed by R. W. Selman, Jr., in the presentation of a paper on the use of the amylograph for flour malt control prepared by R. W. Selman, Jr., and R. J. Sumner, C. J. Patterson Co., Kansas City, Mo., and read at the morning session, May 15.

Mr. Selman stated that the amylograph procedure was better than malt control as it measures the property of diastase as reflected in the loaf of bread. He noted that there was little if any correlation between maltose value and amylograph results, pointing out that the malt activity of the flour as measured by the amylograph is increased relatively little by the over-grinding of the flour. It changes gas production to a large extent but has little effect on the amylograph, he said.

In indicating its value he reiterated the statement by J. A. Johnson that the amylograph procedure created almost indentical results as actual baking conditions.

Reviewing the disadvantages of the procedure he pointed to its fragile construction and the temperature variance between instruments.

Variations in Flours of Same General Type

The wide variability in flours milled for the same general purpose indicating the need for more attention on the part of manufacturers of baked goods in securing uniformity in these flours was noted in results of a study reported by J. A. Johnson at the morning session, May 15. The paper, "Amylograph Curve Characteristics of Various Types of Commercial Flours and their Relation to Flour Maltose and Gassing Power Values," was the result of work conducted by J. A. Johnson, J. A. Shellenberger and C. O. Swanson, Kansas State College, Manhattan, Kansas.

In the study amylograph curves were obtained from 130 commercial flours of various types showing that there is nearly as much variation between curves within the same flour type group as between flours manufactured for entirely different purposes.

In this work the relationships of amylograph curve height, maltose and gassing power values, were compared for the bakery, family and cracker sponge type flours. The correlation coefficients for these three relationships were found to be as follows: diastatic activity and amylograph curve height equal to —0.69; gassing power and amylograph curve height —0.83; diastatic activity and gassing power —0.92.

Mr. Johnson pointed out that the amylograph was a good means of measuring susceptibility in flour to alpha-amylase attack as it was fitted to this type of measurement of alpha-amylase activity under conditions simulating actual baking.

Gas Production and Retention

Results of preliminary studies on gas production and gas retention properties of dough, two important factors involved in production of good bread, were reported by E. C. Swanson at the morning session, May 15, in a paper prepared by the speaker and C. O. Swanson, Kansas State College, Manhattan, Kansas.

In the experiment some surface-active, reducing and oxidizing agents were added to a "lean" formula dough

What kind of Biscuits With Today's Flour?
Biscuit Score Card
(Today's flour made self-rising with V-90)
1 SPECIFIC VOLUME (lightness)
About the same as ever.
2 GRAIN
Fine, open, and flaky.
3 CRUMB COLOR
Acceptable and several shades whiter than is possible with any other leavening.
4 FLAVOR
Very palatable . . . with a wholesome wheaty flavor.
5 EATING QUALITY
Definitely satisfying.

No apologies need be made for biscuits baked with today's flour . . . especially if those biscuits have been baked with flour that's been made self-rising with V-90.

Never before has the superior leavening action of V-90 been more important. Because V-90 . . . and only V-90 . . . even with today's flour, assures oven products that are most acceptable. And that includes cakes and other oven delicacies, too!

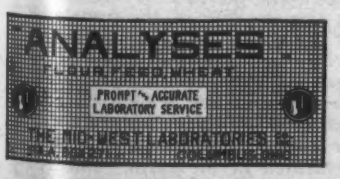
No, sir . . . apologies *aren't* necessary! Tell Mrs. Housewife she can still expect "mighty good eating" from the oven products she bakes from *your* flour because it contains slow-acting V-90. Keep her happy, and keep her in the habit of home baking . . . a habit that's all-important to the future of the family flour business.

VICTOR CHEMICAL WORKS

V-90 THE SLOW-ACTING PHOSPHATE FOR BEST BAKING WITH ANY FLOUR!

VICTOR CHEMICAL WORKS, 141 W. JACKSON BLVD., CHICAGO 4, ILL.

NEW YORK • KANSAS CITY • ST. LOUIS • GREENSBORO, N.C. • *Plants:* NASHVILLE • MT. PLEASANT, TENN. • CHICAGO HEIGHTS, ILL. • VICTOR, FLA.



and the effects of these agents on gas production and gas retention recorded. The surface active agents were: Aerosol O T, Santomerse S and Tergitol penetrant 8; the reducing agents included cysteine, glutathione, and sodium sulphide, and the oxidizing agents were potassium iodate, potassium bromate and hydrogen peroxide.

Findings on the research project showed that the initial rate of gas production was decreased by Aerosol, Tergitol, glutathione, and bromate but increased by peroxide. The duration of the initial rate was decreased by Santomerse and sodium sulphide, and increased by Tergitol, glutathione and bromate.

It further showed that the gas-retaining capacity of dough was decreased by Aerosol, Santomerse, cysteine, glutathione, sodium sulphide and hydrogen peroxide, but to a certain concentration increased by bromate. Aerosol and cysteine (beyond a certain concentration), glutathione, and sodium sulphide decreased the time elapsing from the start of fermentation until maximum gas retention was reached while Tergitol, bromate and cysteine up to a certain concentration increased the time lapse.

A commercial baker's hard red winter wheat flour and a flour-water-yeast formula were used in the study.

Effect of Temperature on Barley Malting

A study of amylase activity and other quality factors of Peatland, Wisconsin Barbless and a Wisconsin hybrid barley variety as influenced by different malting conditions was reported on by A. D. Dickson at the morning session, May 15. The work, conducted by A. D. Dickson, W. J. Olson, and H. L. Shands, Division of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. D. A., and Wisconsin Agricultural Experiment Station, Madison, Wis., was concerned with the three individual samples malted under different conditions of moisture, temperature and time.

In the experiment four malting temperatures varying from 12 to 20° constant and two days at 20° then dropped to 12° C, malting moistures of 45 and 48%, and four germination times of 4, 6, 8 and 10 days were used in the research and the finished malts analyzed by standard methods.

The experiment showed that higher malting temperatures resulted in more rapid development of alpha-amylase, but affected only slightly the final values and that the beta-amylase reached its maximum value more rapidly, and was affected by the malting moisture to a greater degree than the alpha-amylase. It also pointed out that a fairly wide range in the ratio of beta-alpha-amylase activity could be obtained in a given barley sample by varying germination time and temperature.

Method for Production of Mold Bran

Laboratory work conducted at midwestern universities to establish an effective method of producing the mold aspergillus Oryzae on bran for a low cost enzyme product, mold bran, led to production through growth in rotating drums, growth in thick layers with forced aeration through the bran mass, and growth on trays in specially humidified and ventilated incubators.

The work as outlined in a paper by L. A. Underkofler, G. M. Severson, K. J. Goering, and L. M. Christensen, was conducted principally at Iowa State College, University of Nebraska and Farm Crops Processing Corp., Omaha, and read at the morning session, May 15.

Pilot plant investigations led to solution of the main problems in translating laboratory results to commercial production involving incubation on trays in specially ventilated rooms. This unit proved easier to operate, produced a more uniform final product and therefore served as the basis for the construction of a commercial plant.

Analysis of Composition of Corn Kernel

A report of the analyses of the composition of the component parts of the corn kernel, presented by F. R. Earle, J. J. Curtis and J. E. Hubbard of the Northern Regional Research Laboratory, Peoria, Ill., demonstrated that there is a high degree of correlation between the oil content of the germ and the oil content of the whole grain. Mr. Earle, who presented the report, pointed out that it is not necessary for plant breeders, in their tests for the oil content of corn hybrids, to separate the germ from the endosperm when making oil determinations.

The endosperm, which constitutes about 82% of the grain, was found to contain about 15% of the ash and oil of the grain, about 30% of the sugar, 70% of the protein, and about 98% of the starch. The germ of the corn kernel which consists of about 12% of the total weight, contains approximately 80% of the ash, 85% of the oil, 25% of the protein, 70% of the sugar and 1.5% of the starch.

Mr. Earle said that there is considerable demand for a corn hybrid or variety that has a high oil content and corn processors wanted a variety or hybrid in which the oil was concentrated in the germ. Illinois No.

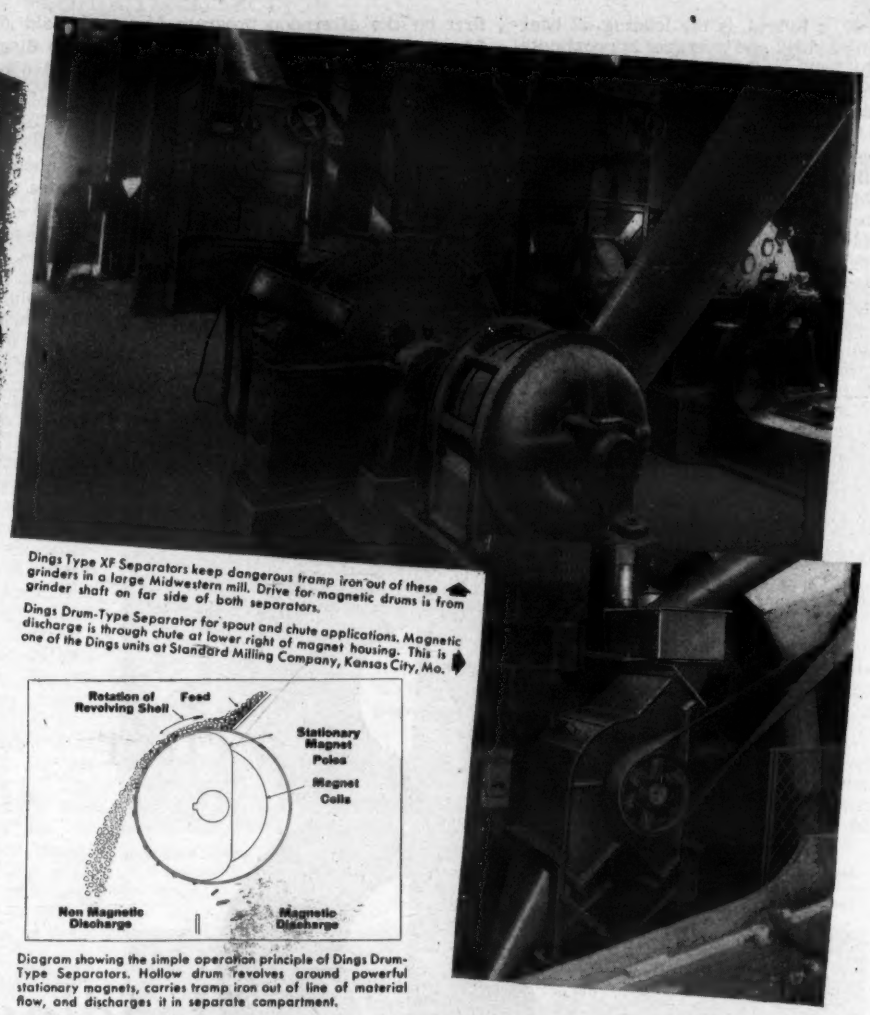
Added sales power for your product!
Vitamin enrichment will help on the steep climb ahead
Flour is in a choice position to meet the heavy competition ahead among food products—thanks to enrichment. But be ready to meet this challenge . . . continue to feature *enrichment* . . . let it *help your product on the steep climb ahead* in three ways . . .
• it gives you the potent one-word sales message, "ENRICHED", to feature on your package.
• it supplies your customers with additional food-values for better health.
• it boosts your sales . . . enrichment has made more people buy more wheat cereal products.
And remember, when ordering your enriching premix—see that it contains 'ROCHE' vitamins.
"ROCHE" VITAMIN DIVISION
HOFFMANN-LA ROCHE, INC., Nutley 10, N. J.

automatic

Guardians

against Tramp Iron

DINGS DRUM-TYPE MAGNETIC SEPARATORS



Dings Type XF Separators keep dangerous tramp iron out of these grinders in a large Midwestern mill. Drive for magnetic drums is from grinder shaft on far side of both separators.

Dings Drum-Type Separator for spout and chute applications. Magnetic discharge is through chute at lower right of magnet housing. This is one of the Dings units at Standard Milling Company, Kansas City, Mo.

POWERFUL, automatic tramp iron removal with Dings Drum-Type Magnetic Separators insures your mill against the fire hazards, mill and grinder damage, and possible iron contamination that are ever-present without adequate magnetic protection. Dings "High Intensity" units have an effective range of *more than 20 times that of non-electric magnets*.... And automatic iron separation eliminates routine magnet cleanings that are easy and dangerous to forget.

Dings Drum-Type Separators are built in a wide range of sizes and types to fit the varying needs of individual mill setups. Dings Catalog No. 660 tells the complete story of magnetic drums. Write for it today.

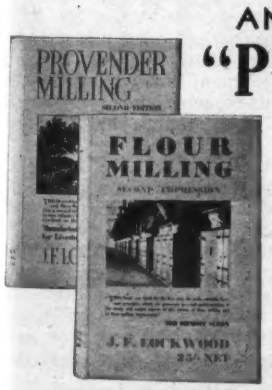
DINGS MAGNETIC SEPARATOR CO.
527 EAST SMITH STREET MILWAUKEE 7, WISCONSIN

Diagram showing the simple operation principle of Dings Drum-Type Separators. Hollow drum revolves around powerful stationary magnets, carries tramp iron out of line of material flow, and discharges it in separate compartment.

"Separation Headquarters Since 1899"

Dings
"HIGH INTENSITY"

BOTH REPRINTED "FLOUR MILLING" AND "PROVENDER MILLING"



BY

J. F. Lockwood

Written by one of the foremost milling experts of this generation these two books provide the most up-to-date and comprehensive works on every aspect of practical flour and feed milling.

Both have been received with an enthusiasm that quickly exhausted the unusually large impressions first printed.

They have now both been reprinted to meet the continuing world demand.

"AMERICAN MILLER"
"Provender Milling" fills a gapping want in our technical literature.

"NORTHWESTERN MILLER"
"Flour Milling" is certainly a book that progressive millers should have in their libraries.

"FLOUR MILLING" - $7.00 Post Free
"PROVENDER MILLING" $5.00 Post Free

THE NORTHERN PUBLISHING CO., LTD.
37 VICTORIA STREET - - - LIVERPOOL, 1
230 PRODUCE EXCHANGE - - - NEW YORK 4

FULTON'S 75th ANNIVERSARY MAKING FINE BAGS

The high quality of FULTON FLOUR BAGS plus Fulton's superior printing and attractive designs increase the eye appeal of your bags. Also, special premium packages with added sales value.

Write our nearest plant

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS MINNEAPOLIS
NEW YORK NEW ORLEANS DENVER KANSAS CITY, KAN.

200, a hybrid, is the leading oil bearing hybrid and averages approximately 5.6%, as contrasted with another hybrid, Iowa 939, in which the oil content was only 3.9%.

"There are two ways by which corn processors can obtain a variety that yields a high percentage of oil," Mr. Earle said. "One way is to pay a premium for high-oil corn so that farmers could get the same return per acre, or plant breeders can develop a hybrid that will yield as much per acre as the varieties or hybrids now being grown that are lower in oil content."

The report by Mr. Earle was the first on the afternoon program May 14. Dr. W. F. Geddes, chief of the division of biochemistry, University of Minnesota, acted as chairman during the session.

Separation of Proteins Into Gluten Fractions

Dr. M. A. Barmore, a research chemist on the staff of the federal soft wheat quality laboratory, Wooster, Ohio, presented the results of a study made by him that indicate that the major proteins of wheat, commonly called gliadin and glutenin, do not appear to be entities. With the aid of lantern slides, Dr. Barmore diagrammed the separation of the two proteins and the analysis of each fraction. Glutenin, he said, can be converted into a gliadin-like material that is soluble in a 50% solution of aqueous alcohol. "The evidence indicates that gliadin and glutenin represent a complex of micelles of varying lengths, ranging from short micelles that are easily soluble in aqueous alcohol, through longer ones, also soluble but under special conditions, to very long units that are not soluble in the solvent but are dispersible in acetic acid solutions.

Effect of Temperature on Growing Wheat

The gluten quality of wheat is affected considerably by the atmospheric temperatures during the last 15 days of its growing period, according to the results of a study reported on by Karl Finney, a member of the staff of the Soft Winter Wheat Quality Laboratory at Wooster, Ohio. Temperature, when abnormally high during the last two weeks of the fruiting period, was given as the reason for the decrease in loaf volume and mixing requirement, Mr. Finney said.

Mr. Finney's report was based on a study of 650 samples of dark hard winter wheat grown under a wide range of climatic and soil conditions. Protein content accounted for approximately 95% of the variations in loaf volume, provided temperature during the time the wheat heads were filling was not a limiting factor.

His report went a long way toward explaining a condition observed in flours milled from wheats that had reached maturity under abnormally high temperatures. That condition, referred to as "gluten-bound," apparently is caused by abnormalities in the nitrogen synthesis of the wheat plant under higher temperatures which affect the two principal fractions of the gluten-gliadin and glutenin.

In his study, Mr. Finney correlated atmospheric temperatures during the last 30 days of the wheat plant's growth with the baking performance of the flour milled from the wheat harvested. In practically all instances he found that there was a decrease in loaf volume, ranging from 15 to 30%, depending upon the number of "degree-days" of temperature above normal. When temperatures were normal, the expected loaf volumes were obtained within the limits of experimental error. Loaf volume expected within any specific variety has been found to be a function of the protein content, when the wheat was produced under normal climatic conditions.

It was inferred from Mr. Finney's discussion that too much significance has been placed upon the broad term "environment" when accounting for the unexpected behavior of flours from crop years characterized by high temperatures during the final month before harvest. More specifically, the reason for subnormal baking characteristics seems to be influenced more by very high temperatures than by moisture, soil conditions and other factors included in the term "environment." It has been noted that wheat which reached maturity in a long, cool growing season produced flour described as mellow.

Need of Research in Malt Evaluation

A recommendation for additional investigation directed towards refinement and co-ordination of procedures in the collaborative study on the evaluation of malt alpha- and beta-amylase was voiced by Eric Kneen, Kansas State College, Manhattan, in a report of the malt evaluation committee presented at the conclusion of a session on enzymes.

The collaborative study, in co-operation with the American Society of Brewing Chemists, involved the determination of two malt amylases, each at both 20 degrees and 30 degrees C with six malt samples employed and complete results on four methods reported by 16 laboratories.

for Better Blending

specify Columbia Flour Blend Sodium Bicarbonate

White, free-flowing, and non-caking, Columbia
FLOUR BLEND grade is U.S.P. Sodium Bicarbonate
combined with a small amount of Tri-Calcium Phosphate.
FLOUR BLEND is available in a variety
of sieve specifications.
Columbia Sodium Bicarbonate is also furnished in U.S.P.
grade, in powdered or granular form, which
meets or surpasses every U.S.P. standard.
You'll find it pays to standardize on the Columbia brand.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION
FIFTH at BELLEFIELD • PITTSBURGH 13, PA.

CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • NEW YORK • CINCINNATI • CLEVELAND • PHILADELPHIA • MINNEAPOLIS • CHARLOTTE • SAN FRANCISCO

Cereal Chemists Discuss 80% Flour Production

AMERICAN operative millers, like their British contemporaries, are learning more about their craft because of the increased extraction rate, than had been learned "for a long time," speakers agreed during the round table discussion of milling 80% extraction flour, held on the afternoon of May 15 as a part of the program for the annual convention of the American Association of Cereal Chemists, held at Niagara Falls, Ont.

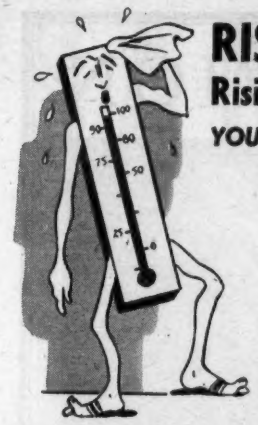
The round table discussion was conducted by J. A. Anderson, chief chemist, grain research laboratory, Board of Grain Commissioners, Winnipeg, Man. R. S. Herman, General Mills, Inc., Buffalo, N. Y; C. E. Rich, Ogilvie Flour Mills Co., Montreal, Que; E. G. Bayfield, Standard Milling Co., Chicago; Betty Sullivan, Russell-Miller Milling Co., Minneapolis, Minn., and Lowell Armstrong, Ballard & Ballard Co., Inc., Louisville, Ky., constituted the panel for the discussion session. The panel members limited their remarks and then the chairman called upon a number of operative millers and cereal chemists in the audience for further discussion. The session was attended by the largest number present for any of the sessions throughout the convention.

With the aid of wooden blocks constructed to scale to represent definite amounts of wheat, Mr. Herman graphically illustrated the disappearance of the stocks of wheat in the United States. His discussion was, in effect, an explanation of the reasons for the existing restrictions upon wheat use. Starting with blocks that represented United States wheat stocks of 1,404,000,000 bus on July 1, 1945, Mr. Herman removed blocks from his display to show the July to January disappearance of 715,000,000 bus, then 90,000,000 bus that were used for feed from January to July, 1946, 23,000,000 bus that were used for seeding the spring wheat crop, 250,000,000 bus used for food domestically since Jan. 1, 1946, 176,000,000 bus exported and an estimated 150,000,000-bu carry-over on July 1, 1946.

The net result of Mr. Herman's calculations was a deficit of 49,000,000 bus should the State Department's commitments for export wheat be kept.

Flour mills in the United States during 1945 ground 629,000,000 bus of wheat, Mr. Herman said. The average percentage extraction was 71.4%, which yielded 17.4 lbs of feed and 42.6 lbs of flour per bushel of wheat. Under the existing 80% extraction order, a bushel of wheat yields 48 lbs of flour and 12 lbs of feed, or a net gain of 5.4 lbs of flour per bushel of wheat ground.

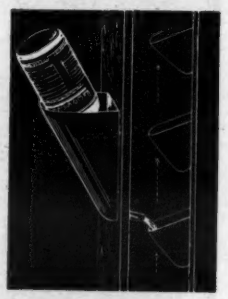
Mr. Herman concluded his remarks



RISING TEMPERATURES mean Rising Populations . . . IN BUGDOM!

YOU CAN STILL KEEP THINGS UNDER CONTROL BY TREATING YOUR MACHINERY NOW!

That happy little family hiding in boot stocks, cracks and crevices will soon become a BIG family that won't make *you* happy at all.

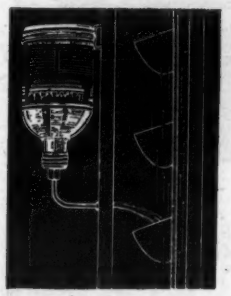


Metal Leg Vase for using Larvacide from cylinders —in any bottle.

Use Larvacide to treat your machinery, *right now.* Every dollar you invest in Larvacide now will save you up to $50 later on . . . will help clean up Mediterranean Moth and other pests, along with their larvae and egglife.

Larvacide

IS THE FUMIGANT YOUR OWN MEN CAN APPLY



The FUMALEG with special Larvacide Dispenser Bottle.

Use it in vaults to treat returned sacks and infested small lots . . . and in outgoing Freight Cars to head off cause for complaints about infested flour shipments. To kill Moth, splash a quart or so through bin top openings.

Larvacide is easy to use, effective, very economical . . . and remember: light dosage, with overnight exposure, kills rats without carcass nuisance. Write for folder MP-6. You'll be glad you did.

Larvacide is shipped in liquid form in 25, 50, 100 and 180 lb. cylinders and handy 1 lb. Dispenser Bottles, each in sealed can, 12 to case. Stocked in major cities.

INNIS, SPEIDEN & COMPANY, 117 LIBERTY ST., NEW YORK 6

BOSTON · CHICAGO · CINCINNATI · CLEVELAND · OMAHA · PHILADELPHIA

Canadian Distributors: STRONG, SCOTT MFG. CO. Ltd. TORONTO · WINNIPEG · CALGARY

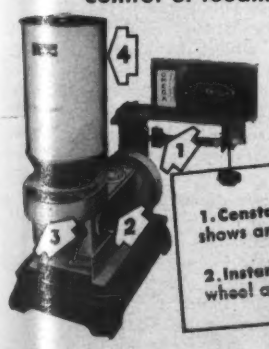
ELIMINATE UNDER-ENRICHED FLOUR

ELIMINATE WASTEFUL OVER-ENRICHMENT

OMEGA VITAMISER

A flour mill is not a sideshow; therefore, uniform feeding is mighty important. Install the accurate Omega Vitamiser for absolute uniformity in flour enrichment . . . a machined groove in the feeding disc provides exact volumetric measurement of vitamin concentrate. Variable speed drive gives positive control of feeding rate.

Send for Bulletin



1. Constant check: weigh scale shows amount fed.
2. Instant control: precise hand wheel adjustment.
3. Simple mechanism: even distribution; continuous feeding.
4. Removable hopper: simply lift off to empty contents.

OMEGA MACHINE COMPANY

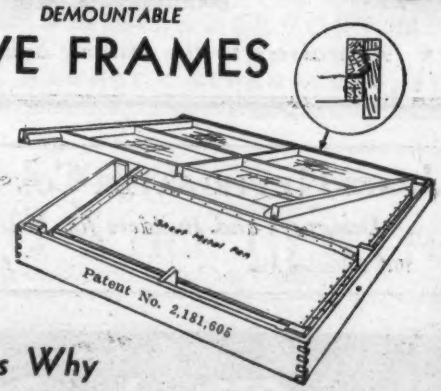
(DIVISION OF BUILDERS IRON FOUNDRY)

89 Codding St., Providence 1, R. I.

SERVICE THE "WILLIAMS WAY"

THE NOR-VELL QUALITY LINE

NOR-VELL DEMOUNTABLE SIEVE FRAMES



RELIABLE

•

EFFICIENT

Some Reasons Why

NOR-VELL FRAMES ARE TOPS:

- ELIMINATE LEAKAGE
- LONGER SERVICE
- NO JOINT WEAR
- FIT ANY STACK TYPE SIFTER

Replacement Sieve Frames for all types of bolters. Ask for the facts.

W. E. NORVELL, *President*

H. J. HOLDEN, *Vice Pres.*

NORVELL-WILLIAMS, INC.

Office: 1320 Main St. Factory: 4215 Michigan

KANSAS CITY, MO.

DEVALUATION

In these days of economic and industrial reconversion we hear much talk about inflation and devaluation. Pictured above is the packing floor of a flour mill that underwent a devaluation process.

The insurance adjustor will want to know, in the event of a fire at your plant, what its value was before the devaluation process took place. Can you tell him?

Satisfied customers of ours do not have to depend upon guess work when the insurance adjustor, the tax assessor or others interested in your property values make inquiry. They know. Our trained engineers make evaluations their business.

Let us explain our service to you.

Knowing Your Worth Is Well Worth Knowing

Appraisal Service Company, Inc.

Minneapolis, Minn.

★ *Appraisers to the Milling and Grain Trade* ★

JONES-HETTELSATER CONSTRUCTION CO.

Designers and Builders for Milling Companies

1012 Baltimore Ave. KANSAS CITY 6, MISSOURI

BAGS BURLAP

SELECTED MANUFACTURERS FLOUR MILLERS

CENTRAL BAG & BURLAP CO.

IMPORTERS AND MANUFACTURERS

OFFICE AND FACTORY: 4513-4525 SOUTH WESTERN BLVD.

CHICAGO

DISPLAYING THEIR WARES—The display booth shown above, installed by the Winthrop Chemical Co., Inc., was the only commercial display at the annual convention of the American Association of Cereal Chemists, held at Niagara Falls, Ont., May 13-16. P. Val. Kolb, director of the special markets division of the company, is at the left. With Mr. Kolb is L. L. McAninch, a partner of J. M. Doty (right) in representing the Winthrop Chemical Co. in its southwest territory, with headquarters in Kansas City, Mo.

with a recitation of the further limitations and restrictions on wheat use and sale, as ordered by the government and announced May 15. Those restrictions included the extension of the 80% extraction requirement, confiscation of wheat in the possession of grain houses, the ODT embargo on wheat from the Southwest, limitation of domestic use to 85% of 1945 use, and the requirement that farmers storing wheat must offer 50% of it for sale to the government.

Last 2% "Complicates Problem"

The necessity for "getting the added flour from the feed" was stressed by E. G. Bayfield, Standard Milling Co., Chicago, who followed Mr. Herman on the panel. Mr. Bayfield said that it had been the experience of millers with his company that no particular problem was involved in obtaining a 78% extraction flour with good color and dress, but added that "the last 2% complicated the problem."

Mr. Bayfield then called upon a mill superintendent, J. George Kehr, Russell-Miller Milling Co., Buffalo, for his comments or suggestions. Mr. Kehr stressed the necessity for a "better job of milling, especially when milling low-test weight wheats. He said that it also is advisable to coarsen up on the bolting cloths at the tail of the mill, going from 12XX to 10XX or 9XX. The short-system or "bob-tailed" soft wheat mills in the Middle West, Mr. Kehr said, were experiencing the most difficulty. He added that the larger mills with a 5-break, 8-reduction system should not experience too much difficulty.

Betty Sullivan, laboratory director for the Russell-Miller Milling Co., said that the American millers were quite appreciative of the assistance and suggestions offered by the British and Canadian millers when it became necessary to change over American mills to the production of 80% extraction flour. She said that she was amazed at the quality of the 80% extraction flour now being produced in this country, and added that "American millers still have a long way to go in obtaining more uniformity between different batches of flour."

Her company's millers, Dr. Sullivan said, had found it advisable to temper the wheat to approximately one half per cent less moisture, to increase the release on the first and second breaks by 5 to 10% and to use less suction on the purifiers.

British Technologists' Suggestions

Some of the results of experimenting by British millers were described by Dr. P. Halton of the Research Association of British Flour Mills. Dr. Halton said that when wheat is milled to retain a high natural vitamin content, the separation of the scutellum from the bran posed the biggest problem. He advised American millers to replace smooth rolls with scratch rolls at the tail of the mill. He said that an 80% extraction flour in the United States would be comparable to a 78% extraction flour in Great Britain because British millers are required to use the weight of the uncleaned wheat as the base in their calculations, while American millers use cleaned wheat as the base in computing percentage extraction.

Further comments on what British millers have learned about milling high extraction flours were made by Dr. D. W. Kent-Jones, a leading cereal chemist from that country. He called attention to two outstanding differences between mills and milling in Great Britain and the United States. These differences, he said, are (1) less roll surface per unit of flour in the United States, and (2) tempering wheat to lower moisture content in the United States. "The miller in the United States has an easy task," Dr. Kent-Jones said, "as compared to the British miller. The American miller bases his yield on clean wheat weight and, in general, he has better milling wheats."

More Release at Break Rolls

The higher flour yield, Dr. Kent-Jones said, must be obtained at the head of the mill by increasing the break release on the first break from 25 to 40% and from 45 to 60% on the second break. "It is a sad mistake to try to get the increase in yield at the tail of the mill. The stocks have to be handled gently and that means the endosperm must be scraped off the bran instead of chop-

ping it up with the bran," he said.

British millers have "learned more about the basic principles of milling in the past five years than they had learned in the 25 years or more before the war," Dr. Kent-Jones said, adding that he was confident that American millers, too, would become better millers through a careful study of each stream and their improvement of the quality of the flour they milled.

Longer Tempering Time

The necessity for lengthening the tempering time and for giving more attention to conditioning wheat for milling was emphasized by W. L. Haley, chief chemist for the Fisher Flouring Mills Co., Seattle, Wash. He said that experience has shown that wheat needs "at least a 10-hour rest period between tempering and being put on the mill." For dry wheats, Mr. Haley recommended a two-stage temper treatment, explaining that wheat of below 10% moisture as received did not absorb enough moisture with only one tempering water addition.

Lowell Armstrong cited some calculations made by a member of his firm to show the effect of variations in moisture upon flour yield. A difference of 2% in the moisture content of wheat as received, Mr. Armstrong said, is equal to 2.9 lbs of wheat per sack of flour.

Guy Findley, Tex-O-Kan Flour Mills Co., Dallas, Texas, expressed the belief that a better job of making 80% flour could be accomplished if the feed on the mill were reduced. He said that the average mill in the United States was designed to produce one barrel of flour for each 1¾ inches of roll surface, but that the feed had been increased to a point where a barrel of flour is being produced for each 1¼ inches of roll surface.

An increase in the amount of Agene treatment on the clear and low grade streams before blending the different streams was recommended by W. L. Heald, chief chemist for The Shellabarger Mills, Salina, Kansas. Mr. Heald said that he had found it advisable to double the amount of Agene for the clears and triple the amount for the low grade flour. "We have used as much as 16 grams per 100 lbs on the low grade streams, and that apparent heavy treatment has improved the baking quality of the flour," Mr. Heald said. He also referred to research conducted by M. D. Mize of Wallace & Tiernan Co., Inc., in which substantially the same results were obtained. Mr. Heald said that it was his belief that better baking performance could be obtained by using the heavy Agene treatments on the low grade clear streams than by bromating the finished flour.

Mr. Mize recommended that the Agene requirements of each fraction of the reconstituted flour be determined separately by baking tests on samples treated with different amounts of Agene. The most desirable way, Mr. Mize said, was to determine optimum requirements for the patent, first and second clear and low grade streams, and treat each stream according to its requirements. Then, when the streams are reconstituted before packing, the best baking requirements can be obtained.

Better Insect Control

(Continued from page 5a.)

operator believes oil solution is unwise because it tends to animate the insects and brings them into the open, thus increasing the probability that they will crawl onto bags of flour. He suggests the use of dilute water suspension. It is a safe guess that the treatment found most effective on a rather smooth wood surface will be inadequate on a very rough, open-grain wood surface. Floor cracks where organic matter has collected, been wetted and become caked, thus providing a place for insects and larvae to hide, may require still different procedure.

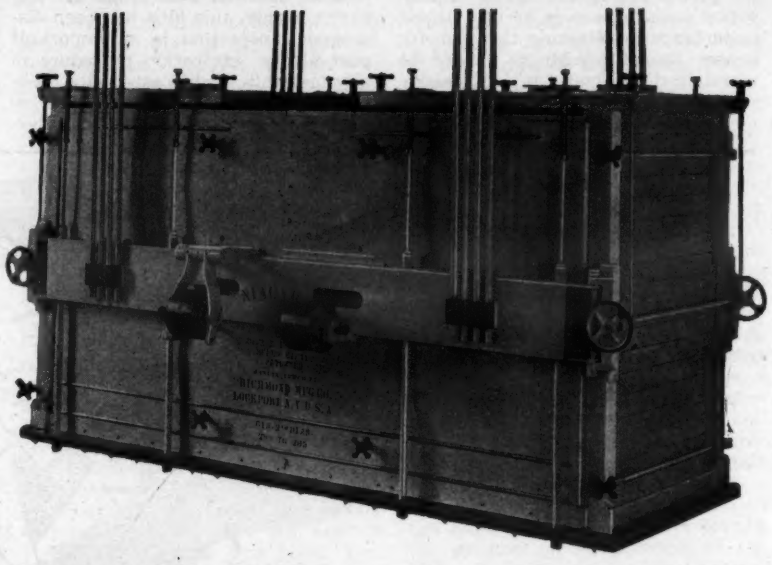
If anyone is using D.D.T. effectively in boxcars, it is probably the result of chance rather than careful research. The same investigational study which eventually leads to discovery of the most efficient procedure for using D.D.T. in boxcars should be applicable to floors, walls and ceilings of mill and bakery warehouses.

Nothing herein should be construed to mean that I advocate discontinuance of mill fumigation. It is a very necessary part of mill sanitation. My point is that even after the expenditure of much time and money, the miller never has a completely bug-free mill. He must be content if he can hold the insect population down to a reasonably low level.

Mill machinery manufacturers, electronic engineers, fumigators, impact-machine builders, insecticidal chemists, entomologists and bag manufacturers are working toward the common goal. New and better procedures for controlling insects must and will be developed.

Editor's Note: The foregoing article was the text of an address delivered by Mr. Durham at a meeting of District 4, Association of Operative Millers, Minneapolis, Minn., May 4, 1946.

SANITARY



SUPER SIFTER

The last word in modern high-speed design. Feature perfect circle; simplified flexible flow; totally enclosed drive; no bucking; no vibration and NO sifter box or false bottom for the accumulation of infestation.

A new folder is ready for you. Learn about the 2 and 4 section models—with 10 to 22 sieves in each section. All stocks from first break to rebolt handled with perfect separations at lightning speed.

RICHMOND MFG. COMPANY LOCKPORT, N. Y.

MANUFACTURERS OF—
HI-SPEED SIFTERS, MAGNETIC SEPARATORS, ETC.

Flour Exchange The J. K. HOWIE CO. Minneapolis, Minn.
SOLE DISTRIBUTOR IN THE NORTHWEST FOR
GREENING WIRE CLOTH
PROMPT SERVICE and SATISFACTION GUARANTEED

AGB

Silk Bolting Cloth and Silk Grit Gauze

AGB Silk Bolting Cloth is being used with unsurpassed results by many of America's largest flour millers.

MADE IN AMERICA

Albert Godde Bedin, Inc.
246 Madison Avenue, New York 16
MILLS: DEPEW, N. Y. ANDOVER, N. Y.

Mill Lubrication

GETTING dollar-for-dollar value from milling machinery is not only a problem of insuring longer life for that mill equipment and smoother operation, but a problem of keeping profit margins at the proper percentage figure. Lubrication maintenance is of the utmost importance in attaining this end, for proper use of machinery cannot be maintained without it. Excessive maintenance and repair expenses are virtually always due to lack of proper attention to lubrication, and those frequent breakdowns that disrupt mill schedules can many times be laid at the door of improper or careless lubrication methods.

There was a time when lubrication simply required the application of lubricants, and the greater the volume used the more effectively did we believe the mill was running. Today, however, this idea has been disproved. Inspection is an important part of the lubrication procedure in any feed mill, and is especially beneficial where new installations are being run in and where accurate lubricating equipment may be conducive to economy.

The routine to follow in inspection of heavy mill machinery requires consideration of alignment, bearing clearances, means of sealing to prevent entry of water or nonlubricating foreign matter, the adaptability of the lubricating equipment to the operating requirements, and the location and accessibility of the latter. Every inspection should make sure that the lubricating system is delivering the required amount of oil or grease to the moving parts of every machine. No matter how perfect the bearings, if there is any possibility of impaired flow or distribution of the lubricant, serious wear may develop to cause disruption of production schedules and require costly repairs. At the time of inspection, bearings should be checked for misalignment. The possible entry of water should be carefully watched. It is important to remember that water, along with metallic particles, may lead to development of sludge formation.

After a piece of machinery has been installed and been in operation for a certain length of time, it is generally advisable to make a thorough inspection of the lubricating system. And just as we must constantly guard against underlubrication and subsequent damage to operating machinery, so also must we be constantly on guard against the detrimental results which may accrue from overlubrication. Serious consequences may result from it: waste, expense, danger to personnel, and the fire hazard. Waste means unnecessary expense. More important than the actual cost of the amount of lubricant wasted in the mill is the effect that this may have on personnel safety and the fire hazard problem. Unless machinery is surrounded by a proper base, or means to catch and conserve dripped oils, a sloppy condition will result, to involve hazard should an employee slip or fall, and possibly become caught in some equipment.

Waste can normally be prevented by proper understanding of the various means of lubrication available. Knowledge of the limitations and constructional details of such devices (easily obtainable from manufacturers of mill machinery) will be beneficial. We should bear in mind that excessive friction and power consumption may result from the use of an oil of either too high or to low a viscosity. Too high a viscosity will give a good film, but the internal friction in the oil may be excessive; conversely, if the viscosity is too low the film may be broken.

There is one proper lubrication procedure for every machine. The manufacturer has found by costly tests which will do the job best, and the miller is guilty of folly when he tries to save a few cents on lubrication by using other than the specified oils and greases. Many mill superintendents have, of course, found that purchase of lubricating oil and grease in large quantities reduces cost. Often, however, these savings are lost through careless handling, and it is important to remember that careless handling can also lead to serious contamination; to the end that an oil or grease can have its lubricating properties seriously impaired before it is even put to work.

Wasteful or sloppy handling of lubricants can frequently be prevented by care in control of temperatures. We can easily see that when fluidity is assured, less time will be required in drawing oil, and the drip is reduced. Basement storage is best, since there is generally less variation of temperature in a basement than in above-ground storage.

In general the mill superintendent has but two factors to watch and two steps to follow. He must know what special oils and greases have been specified for every machine and follow those recommendations properly, and he must insist upon proper handling and storage of lubricants so that outside hazards will be kept at a minimum.

HOW LONG WILL YOUR MILL STAND INSPECTION?

If you are troubled by reappearance of insect and rodent pests soon after fumigating, change to Liquid HCN for *thorough* fumigation protection. Wherever pests hide in cracks and crevices or in stored or packaged food products, Liquid HCN goes right in after them, fumigating not only your mill or plant, but the flour, cereals, grains and other food products as well.

Liquid HCN penetrates flour, cereals, and many similar food products, *killing insects and destroying eggs*, yet it leaves no deleterious after-effects, *because Liquid HCN is itself clean and non-reacting*. It leaves no taste or odor and *does not affect baking quality* of flour. Correct fumigation with Liquid HCN assures full protection and full saleability for your products.

The best way to arrange for quick, efficient fumigation of your facilities *with a minimum of interruption to production*, is to turn the job over to an experienced Industrial Fumigation Engineer. He is a professional Pest Control Operator and can relieve you of all the trouble and bother of pest control by taking the entire job off your hands. If you don't already know a good firm in your area, we shall be glad to recommend one to give you a complete estimate at no cost to you. Write today. You incur no obligation.

AMERICAN CYANAMID & CHEMICAL CORPORATION
(A Unit of American Cyanamid Company)
Insecticide Department
30 Rockefeller Plaza, New York 20, N. Y.; Kansas City 6, Mo.; Azusa, California

SPECIFY THE FUMIGANT PREFERRED BY EXPERTS

LIQUID HCN

Imagine You

WEARING AN ASPHALT RAINCOAT!

● Probably you'd look terrible. But one thing is sure—you'd stay *dry!* For asphalt keeps out moisture. And that's why we use asphalt to help keep Diamond Crystal Salt dry, and prevent caking.

Salt usually cakes in excessive humidity, because moisture condenses on salt particles, forming a thin layer of brine. Then, in dry weather, the brine evaporates and the crystals knit together.

Our research laboratory has found a number of ways to help prevent salt caking. Removal of moisture-attracting impurities, such as calcium chloride, helps. So does complete removal of fines by careful screening. Most important is to provide salt with a moisture- and vapor-resistant package.

Take our Flour Salt bag, for example. It is composed of three 50-lb. and two 25-lb. sheets of kraft, laminated together with 40 lbs. of asphalt per ream. That's a lot of asphalt, and it costs us more money—but our moisture-vapor transmission tests show this bag is worth the extra cost. The bag is even sewn with *waxed thread* to seal the holes made by the sewing-machine needle. That's real *protection*—one reason we have been able to eliminate caking as a major problem!

Want Free Information On Salt? Write Us!

If *you* have a salt problem, write our Director of Technical Service. He will be happy to help! Diamond Crystal Salt, Dept. A-13, St. Clair, Mich.

DIAMOND CRYSTAL
ALBERGER PROCESS SALT

THE CROWN BAG CO.
2549 Broad St. Memphis, Tenn.
Telephone 4-3017
Dealers In Used Bags & New
... Cotton and Burlap
Bags For All Purposes

LABORATORY SERVICE
Exclusively a Cereal Consulting and Control Laboratory for the Flour, Feed and Grain Industries.
ST. JOSEPH TESTING LABORATORIES, Inc.
Corby Bldg. St. Joseph, Mo.

Vocational Training

(Continued from page 3a.)

value of the chemical components of a man's body is about 85c.

Now let us see what can be done with these raw materials. The Creator, the parents, the schools, the churches, and the teachers and the employers who have trained the boys and young men can turn this 85c worth of chemical materials into a human machine which, judging its economic value only, gives a very high rate of return. If the man eventually earns $1,600 a year, that is 4% income on $40,000. If he earns $2,400 a year, that is 4% on $60,000. If he earns $3,000 per year, that is 4% on $75,000. And if he earns $6,000 per year, that is 4% on $150,000. Now, isn't that some accomplishment?

We esteem the miller or other manufacturer who takes $2.50 worth of material and from it makes $3.00 or $4.00 worth of finished product. How much more of an accomplishment it is to take 85c worth of chemicals and make a man worth $40,000 or $150,000?

About two years ago I read a paper before the annual Kansas Farm-Industry-Science Clinic, in which I made the statement that, since the development of steel roll grinding and air suction purifiers, the multiple sifter and the new wheat cleaning machinery have been the only major improvements in the mechanical milling process. In an editorial, the editor of one of our milling magazines said that he had been disposed to take issue with me on this statement, that it did not seem possible that there had been no great mechanical developments in the milling business for more than 70 years, but that when he looked at the record he found that I was right.

Milling Industry "Marking Time"

Our great industry, and I still think it is one of the great industries, having under its control as it does the greatest of all foodstuffs, has been more or less marking time for many, many years. There have been many refinements in the old basic process; a lot of improvements on the same machines we have been using for a long time, and the chemists have been doing a noble job, but fundamentally we millers have not advanced as much as we might have done. I wonder if a part of our lack of advance is due to the fact that we have no regular plans for educating the men who must do the operative work. We talk about research, but as a matter of fact, we leave most of it for the chemists and agronomists to carry on.

There are a lot of bothersome things that enter into this matter of educating millers. One thing I run into very frequently on the part of the younger men of the industry is the belief that the superintendents do not want to teach them, fearing that if the younger men know too much, the older men will soon be out of a job. There never was a time, and there probably will never be a time, when the man who knows his stuff and has the ability to teach it to other men, will not have a sure position in the milling business.

Another thing I encounter is the feeling that seniority dwarfs or supplants innate ability and industry. This objection is really serious, and it is something which the older men amongst the operative millers must find a solution for, if the young men are going to feel justified in spending their time in some of their most ambitious years learning the trade and helping to dignify it toward the rank of a profession.

A "Cheap" Miller Most Expensive

There is another point which is serious and that is the matter of remuneration. Do we, or can we, pay these young millers enough to attract the kind of men we want? My feeling is that we cannot afford to pay them any less than it will take to get the best. Few people in the business realize, not even the mill managers themselves, the great money difference a good operative miller can make for his company. If you analyze the figures I think it will amaze you. They amazed me and I am an old timer. I found that in an average 2,000-sack mill running 300 days per year, with prices as they were before we were grinding 80% flour, during the days of the OPA, that each per cent increase in the yield cost the mill about $9,000 annually. If the miller were getting a 2.33 yield instead of a 2.28 or 2.29, the company was out of pocket about $36,000 per year.

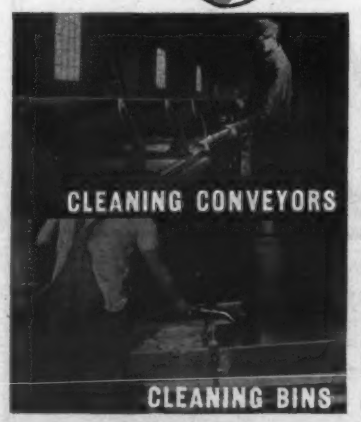
A little figuring will show you that in a 2,000-sack mill good millers who really know their stuff can save their company about $50,000 a year.

It is only the skilled operative who does not throw away several times his salary every year by haphazard operations and so I say to you that if we can build up organizations of properly trained men, pay salaries which the dignity of a profession warrants, we can improve the industry to a point where it will not take a World War every 25 years to make the business profitable and successful.

Competition to Emphasize Need

The milling business is good now, but some of these days the honeymoon will be over. We will get back to where the buyer will always be right and where we will have to have sharp pencils to figure our prices; where it will be a problem to keep business enough on the books to keep the mill running. Where yields and percentages will be serious problems again. And when that time comes, I would like to see a plentiful supply of young, professional millers, properly schooled and trained, ready to begin to take over the work which we older men must some day turn over to them.

The Millers National Federation has made an excellent start toward the solution of our problem by the



Dust and dirt provide breeding places for insect weevil. Your best defense is to attack the source. With Hoffman vacuum units you can easily eliminate the breeding places—definitely control this menace at its source. Hoffman Vacuum Equipment is the fastest way to clean not only walls and overhead structure, but critical locations such as screw conveyors, bins, sifters, bolters and screws.

● SEND FOR LITERATURE

U. S. HOFFMAN MACHINERY CORPORATION
AIR APPLIANCE DIVISION, 100 E. 12TH ST., NEW YORK 3, N. Y.

appointment of a technical advisory committee and the selection of a man as technical director who is most eminently qualified, Mr. R. K. Durham of Kansas City. The president of the Operative Millers Association is a member of this committee.

Some Proposals for Improvement

Here are some of the operative matters which are under discussion by the technical committee or may be proposed for consideration.

First, regular college courses in milling with practical experience in mills during the college years, something like the Antioch College plan which is used in other industries.

Second, short courses for men already working in mills, located in different sections, say Minneapolis, Kansas City or Manhattan, Buffalo and the Pacific coast, with possibly a course for soft wheat millers in Toledo, or some other central states point.

Third, establishment of technical libraries for millers.

Fourth, establishment of fellowships for studies in operative milling problems.

Fifth, subsidized professorships in certain colleges in the great milling states.

Sixth, essay contests for young millers.

Seventh, increased interest in the Operative Millers Association not only by milling superintendents and operatives but also by associate memberships for milling companies and mill managers.

Science, as exemplified by the work of the research chemists, has done great things for milling in the last 50 years. The wheat cleaning machinery manufacturers have made important improvements in their machinery. The scientists working on wheat improvement have accomplished wonders.

It is about time for us to do something worth while about improving the scientific knowledge and technical skill of the men who must operate the mills, and raising the art of milling to the dignity of a profession.

CHAIRMAN—Dr. F. C. Hildebrand of the products control department, General Mills, Inc., presided as chairman of the general subjects session at the annual convention of the American Association of Cereal Chemists at Niagara Falls, Ont.

A New Problem

New crop flours mean new problems in maintaining diastatic standards. It pays to watch these values carefully . . . and it pays to guard your product reputation with our top quality

FULL STRENGTH MALTED WHEAT FLOUR

It is the standard of quality for the milling industry—backed by years of experience and technical "know how."

The Kansas Milling Company

WICHITA KANSAS

DUST IS DYNAMITE!

It Must Be Handled With Care

Dust can be controlled. Engineering service is a part of Mill Mutual Insurance and our dust control bulletins and engineering data are offered without obligation to the milling and grain trade.

MILL MUTUAL FIRE PREVENTION BUREAU

400 WEST MADISON STREET CHICAGO 6, ILLINOIS

Established 1870

PAPER BAGS

for

FLOUR, MEALS, FEEDS *and* CEREAL PRODUCTS

Every bag we manufacture for flour and all other grain products is backed by 75 years' experience in this industry.

Throughout this three-quarters of a century, Quality and Service to the Milling Industry have been the basis of our operation.

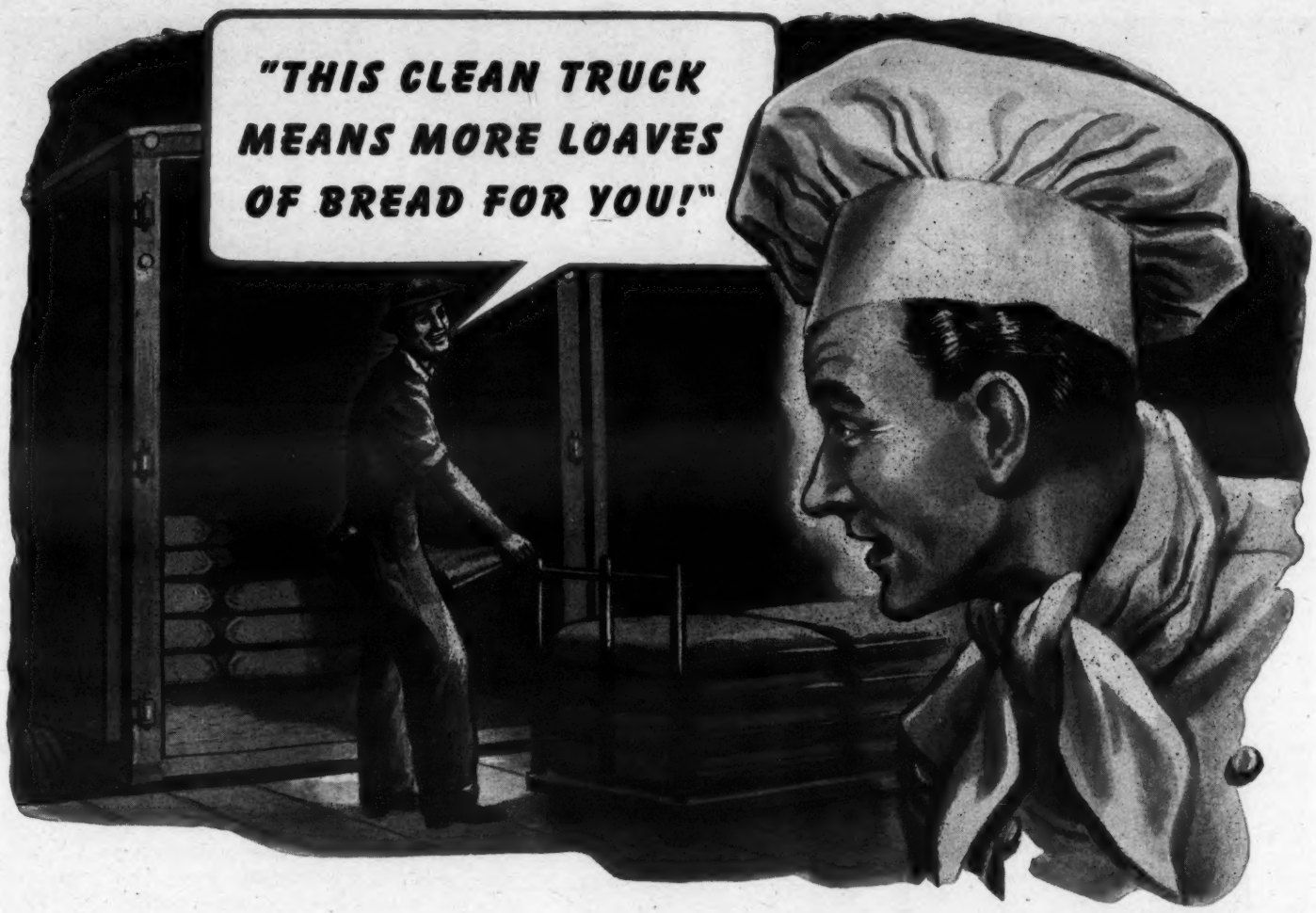
Looking toward the future, these same qualities will be maintained, and, wherever possible, improved upon.

This is our guarantee to the milling industries for the important years ahead of all of us.

S. GEORGE COMPANY

General Offices, Paper Mill and Bag Factory

WELLSBURG, W. VA.



Driver: This clean truck means you get all the flour you paid for.

Baker: That's right, there's no siftage loss with Multiwalls.

Driver: Those siftproof bags will help keep your storeroom clean too.

Baker: I don't lose any flour when I empty these bags either.

Driver: Right, flour won't stick to Multiwalls' smooth insides.

Baker: That does add up to more loaves of bread.

6 Reasons Why Bakers Prefer Multiwalls

1 *Sanitary.* Multiwalls provide maximum protection against infestation, contamination, and moisture.

2 *Full Weight.* Multiwall bags prevent siftage or retention losses . . . bakers get all the flour they pay for.

3 *Salvage Value.* Empty Multiwall Paper Bags can be sold locally.

4 *Easy to Handle.* Multiwalls are easy to handle, load and stack.

5 *Easy to Open.* Multiwall Bags are quickly opened . . . quickly and easily emptied, too.

6 *Moisture Resistant.* These sturdy bags protect the flour from dampness in transit and in storage.

St. Regis MULTIWALL PAPER

MULTIPLY PROTECTION • MULTIPLY SALEABILITY

ST. REGIS SALES CORPORATION

(Sales Subsidiary of St. Regis Paper Company)

NEW YORK 17: 230 Park Ave. CHICAGO 1: 230 No. Michigan Ave.
BALTIMORE 2: 2601 O'Sullivan Bldg., SAN FRANCISCO 4: 1 Montgomery St.

IN CANADA:
St. Regis Paper Co. (Can.) Ltd.
Montreal, Quebec
Vancouver, British Columbia

Birmingham Boston Cleveland Dallas Denver Detroit Franklin, Va. Los Angeles
Nazareth, Pa. New Orleans No. Kansas City, Mo. Ocala, Fla. Oswego, N. Y. Seattle Toledo

TWO POWER SAVING

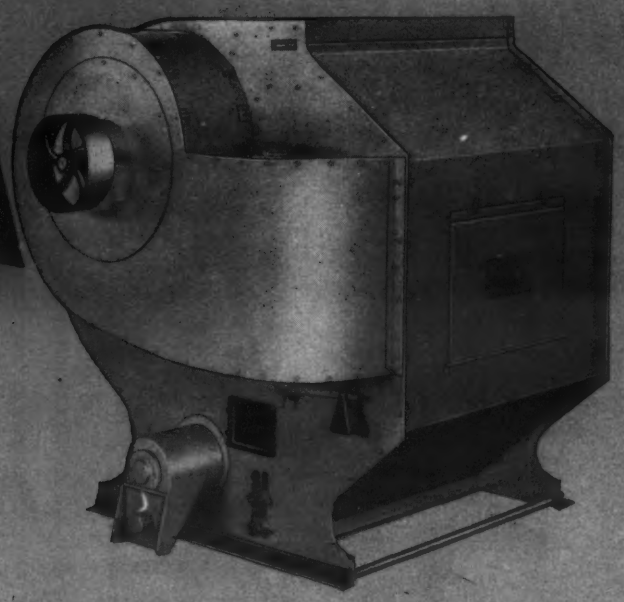
EFFICIENCY BOOSTERS

for the Mill-Cleaning System

1 THE CARTER MILLERATOR

Here is a screen and air separating machine outstanding for its durability, its efficiency, its economy. In a single operation it provides refined scalping; elimination of sand, fine seeds and dust and thorough removal of light screenings. Power costs for this work are extremely low. The Carter Millerator uses only one-fourth of the power required by old-type milling separators for like capacity. Machine is compact, easy to control and has self-cleaning screens.

2 THE CARTER DUO-ASPIRATOR

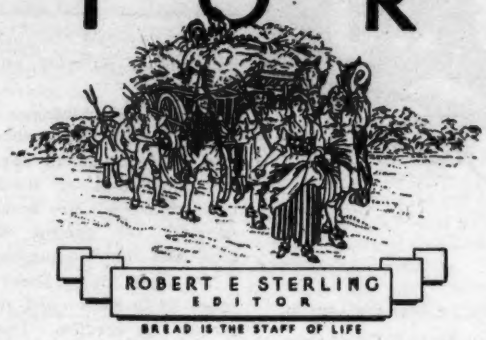


This machine represents the simplest, most economical method yet developed for cleaning grain by aspiration. With air and grain streams under close control, it accomplishes a complete removal of foreign material lighter than the grain. Gives power savings of 2 to 6 H. P. over old-style methods. Requires no dust collector or dust spouting.

HART-CARTER COMPANY

680 Nineteenth Avenue N. E. Minneapolis 13, Minnesota

EDITORIAL



★ ★ ★ ★ ★ ★ ★ ★ ★

WHEN WE WRITE HISTORY

AS has no doubt been clearly apparent to patient readers of these comments from the sidelines, our knowledge of economics is somewhat less than sophomoric. Yet, when at times we have tried to supplement this by browsing serious tomes from our shelves, we find that the solid syllogisms of authorities of earlier times have about as close association with affairs of today as has the Ark of the Covenant. A late-great president of the United States simply substituted directives for economics and the whim of the moment for the learning of the ages; and here we are.

However, when these quaint and curious times have passed, or perhaps when their oddities have come to be accepted as the established order, we have it in mind to write the simple history, probably and quite appropriately in humorous vein, of a modern Gulliver's journey through the wheat fields and markets of the world in the years since agriculture first was taken on the lap of politics and thereafter spoon-fed with the nectar of statutes and the pap of public funds.

We would begin, somewhat unhappily, with the seduction of President Hoover with the weird philosophy of the Farm Board, followed with the nation-wide experiment in co-operative marketing directed and financed by government. From there we would trail the rough path of events until we came to Henry Wallace's planned agriculture, with the plowing up of the third rows and the killing of the little pigs, reaching its climax in the adoption of Joseph's coat of many colors, with its wearer's balancing out of the seven fat years and the seven lean years—according to the soothsayer's philosophy. Next we would come to the ever normal granary so that there never again would be either shortage or surfeit and we would all have to be merely good and kind always and ever after to be fat and happy.

Thereafter, our travels perforce would lead us into rougher country; at first with producer discontent, not so much because of lack of mother government's care but because even much was not enough—because Santa Claus did not come down the chimney every day. And then we would come to the hard years of war, of sacrifice—too often for better pay—of vast and ever increasing production of foods and fibers, greatest of all of wheat.

We would come to the time when serious research was undertaken to find industrial uses for the surplus-plus billions of bushels of wheat, because the sunshine and rain had, of all things, produced more than enough wheat. We would follow the route of wheat being used by hundreds of millions of bushels for animal feeding, by scores of millions for alcohol production, even for making tires; because always, as in the days of paying growers for not growing, there was too much wheat.

Finally, we would come to the present season with a crop and carry-over of nearly a billion and a half bushels of wheat, an amount greater than ever existed in one country in all the world's history. And we would witness the passing of the months, with dread famine stalking half the world but with our stores of wheat not only not being husbanded but disappearing like snow in the sun despite warnings—including our own modest one—that evil days were ahead.

Ultimately, we would arrive at these present days of tolling wheat from the hordes of growers, of panicky restraints upon domestic use, of flour quality degraded to appease other nations for their self-denial by a gesture of equality of sacrifice, of steadily growing shortage of bread with mills and bakeries idle and—final and most unbelievable thing—a black market for a single loaf of bread in this blessed land of plenty.

Here the humor of our narrative would end. For here we would come to human drama, seriocomic though it may sometimes appear to be, when we witness the turnings and twistings of well-intentioned men who must belatedly realize that no man, however gifted, can push a political button or turn a legal crank and regulate seed time and harvests and the flocks and herds of the earth. Nor will all the oratory and all of the political buncombe available in this land of the herded free and the sometimes puzzled brave add one jot or tittle to the success of the effort.

★ ★ ★ ★ ★ ★ ★ ★ ★

The first 10 amendments to the Constitution of the United States are known as the "Bill of Rights." The sixth of these amendments concerns the rights of persons accused of crimes. Lest you have forgotten, here is the text: "In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed, which districts shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense."

● ● ●

GOVERNMENT'S RUTHLESS POWER

THERE is a steadily growing feeling among members of grain exchanges that, despite the age-long service of future trading in facilitating the most economical movement, storage and distribution of seasonal crops, the confusions of government price controls and orders in council finally have become so great that these services no longer can be maintained with any semblance of order and that the only course remaining is virtually to close up shop until the season of frantic authority shall have run its course.

The record of the past two or three weeks in the juggling of grain prices and confusion of government ukases and "recommendations" not only leaves little reason to hope for any better situation in the early future but suggests even greater complications likely to be created with the price control and movement of the indicated requirement of a quarter of a billion bushels of wheat and its flour product in the new crop season. Already the official requirement—enforceable or not—that growers must sell half of their new harvest wheat deliveries, with that half again to be split into other segments for stated uses, creates doubt of the rapidity of new wheat movement from farms, perhaps resulting in new attempts of government to "bonus" the wheat out of grower stock piles.

In such a situation the possibility of sellers being frequently unable to fill their contracts, together with continuation of changes in government policies and directives, would render the maintenance of orderly trading in free markets difficult to the point of impossibility. It may be that the exchanges will be sufficiently resourceful to devise means to continue free markets for future contracts, or even that government may give such assurances of fixed policies as to eliminate the present hazards. Yet the prospect is by no means bright at this moment, and many grain merchants are nearing the line of complete discouragement.

● ● ●

TELLING MR. LA GUARDIA

WHILE the incident has its serious and much to be regretted aspect, there is more than a touch of humor in the reply of Oklahoma wheat growers to the Hon. Fiorello La Guardia when he visited that state last week to urge farmers to sell their grain right away to aid in the battle against world-wide famine.

The reply of the wheat growers was that they had sold their wheat soon after harvest last year only to discover later on that others elsewhere who did not sell, including growers of scores of millions of bushels in the spring wheat country, received steadily increased prices terminating in an outright 30c bonus. They vigorously stated that they had no taste for getting hooked again this year and that, so long as the government's program required them to sell half their crop at the present price basis immediately upon delivery to an elevator, they would prefer to store it in barns and chicken houses or even pile it on the ground.

Mr. La Guardia admitted that it was an idea and indicated that he would try to get things fixed so that farmers who sell their wheat now would be assured of receiving the highest price fixed by the government at any time within the crop year.

● ● ●

CALORIES FOR MEXICO

ALLOTMENT of 2,000,000 bus of wheat for shipment to Mexico through May and June, with implication of further "good neighbor" shipments to that country, where there is no reported hunger, suggests how this wheat saved by American self-denial of bread might better be employed in the battle against starvation elsewhere in the world.

Simple mathematics reveals that, converted into something over 125,000,000 loaves of plain bread, with an approximate nutritional value of 1,200 calories per loaf, this wheat therefore would stay the pangs of hunger to the extent of an added 200 calories per day for the first 100,000,000 people itemized in Mr. Hoover's summary of world starvation for at least 10 days. That, to be sure, is not very much, but it is something worth while in the midst of world wide tragedy.

● ● ●

THE LAMP OF COMPASSION

THE following paragraph is quoted from the world broadcast address of the Hon. Herbert Hoover at Cairo late in April and repeated at the conclusion of his report to the Emergency Famine Committee at Chicago in May:

"If every source of supplies will do its utmost, we can pull the world through this most dangerous crisis. The saving of these human lives is far more than an economic necessity to the recovery of the world. It is more than the path to order, to stability and to peace. Such action marks the return of the lamp of compassion to the earth. And that is a part of the moral and spiritual reconstruction of the world."

"DIAMOND JO"

Here's one of the "Jo" Boys you'll get to know better during the U. S. Wheat Flour Program.

Your old friend, Big Jo, is taking a leave of absence for awhile; but he'll be back one of these days. In the meantime, his brothers Diamond Jo, Chief Jo and Enerjo are busy as bees carrying on the family's 64-year-old tradition of dependable service to bakers.

As always, their "strength" and "uniformity" are fact, not fiction . . . 80% regulations notwithstanding. So give Diamond Jo and his brothers a chance to help solve your baking problems . . . TODAY!

THE BIG JO FLOUR MILLS
Wabasha, Minnesota

"SUPERFLOUR"
"BUFFALO"

Tops in Bakery Flours

★ ★

THE WILLIS NORTON CO.
Quality Millers Since 1879
Capacity 3,000 Cwts. WICHITA, KANSAS

Expand your technical control...

. . . Send your samples to W. E. Long Co. analytical and baking laboratories—for examination, analytical checks, vitamin assay and practical bakery testing.

Prompt—RELIABLE REPORTS.
Ask for full information on regular service schedules and costs.

THE W. E. LONG CO. 155 N. CLARK STREET CHICAGO 1, ILLINOIS

CONTINENTAL GRAIN CO. MILLING WHEAT FROM EVERY PRODUCING SECTION OF THE UNITED STATES

TERMINAL ELEVATORS
Chicago, St. Louis, Kansas City, Omaha, Toledo, Columbus, Portland, Galveston, Enid, Buffalo

OFFICES
New York, Chicago, Kansas City, St. Louis, Omaha, Columbus, Nashville, Enid, Minneapolis, Davenport, Buffalo, Peoria, Galveston, Portland, San Francisco, Vancouver, B. C., Winnipeg

Free Society

(Continued from page 6.)

judgment of industry, and the people at large.

And do not think for one moment that there are not those who see current controls as an opportunity for the incubation of further controls until their ends are more readily attained. We cannot remain "half free" and "half regimented"!

We hear much about free enterprise these days—and much of it is merely lip service. The bureaucrat at his desk in Washington says controls are necessary to save free enterprise. Many business men say "lift all controls from my back but for heaven's sake keep them on the other fellow." The union man, the farmer, and others, are seemingly for free enterprise. But too many groups want something extra for themselves—and want the administration, and congress particularly, to make exceptions in their favor. It's like the special plea to the butcher—"save the steak for me and let the other fellow have the entrails." Secretary of Commerce Henry Wallace wants us to believe that he is the No. 1 champion of the free enterprise system. John L. Lewis' heart is bleeding for the free enterprise system, and so on, ad infinitum.

Is anyone doing anything to get us out from under shackling government controls? It is true congress is attempting to rationalize OPA, but its program thus far does not appear to be thoroughly thought out. In this connection, remember that the cries from the left you hear today about the emasculation of OPA will be repeated next year or the following year or whenever an attempt is made to restrict or abolish that agency.

Now let's see what this expression "free enterprise" means, of which so many speak glibly and too many with tongue in cheek. Free enterprise is synonymous with free markets. Free enterprise is the antithesis of government control. **Free enterprise is the fifth freedom**—the freedom so necessary to a democratic people in getting full production and the type of distribution where the person of modest circumstances who "doesn't know somebody" has a chance to get his share of the goods available. Free enterprise develops the best—whether it be ideas, production, the standard of living, esprit de corps, or citizenship.

To put it in even simpler terms, until the time comes when John Jones and Pete Smith can bargain with each other and arrive at a **mutually** satisfactory price for a sack of potatoes, a bushel of wheat, or a pound of coffee, without the government's sitting in judgment as a kind of referee or umpire or without a government agency's directing what it **thinks** is the right price for the commodity bought and sold, we will not have free enterprise.

Too many people think that free enterprise has something to do with big business only—with transactions running into tens of thousands or hundreds of thousands of dollars. This is, of course, wrong—for the source of all big business is little business. Free enterprise or free marketing must begin with the basic commodity produced on or from the land or mined from the earth's interior. And obviously if the prices of **basic** commodities are controlled

80% EXTRACTION
but still
"THE GREAT BREADMAKER"

You'll like Universal's new 80% flours—carefully milled from the finest spring wheat.

Duluth Universal Milling Co.
DULUTH, MINN.

The Rodney Milling Co.
20,000 CWTS CAPACITY
KANSAS CITY, MISSOURI

"Heart of America" FLOUR

CHICAGO OFFICE:
Kelly Flour Co., 919 N. Michigan Ave.
BOSTON OFFICE:
Seaboard Allied Milling Corporation
1209 Statler Bldg.

VANITY FAIR
TELEPHONE
MARITIME
INVADER
(HIGLUTEN)

"MASTER MILLED" Spring Wheat Flour

CANNON VALLEY MILLING COMPANY
Chamber of Commerce · Minneapolis

King Milling Company
High Grade Michigan Soft Wheat Flour, Plain and Self-Rising
Successful Millers for Fifty Years
LOWELL, MICHIGAN

THE WALNUT CREEK MILLING CO.
Millers of Fine, Country-Milled Kansas Wheat Flours
Since 1877
GREAT BEND, KANSAS

HIGH GLUTEN FLOURS
For Bakers
The Morrison Milling Co.
Denton, Texas
Emphatically Independent

Pfeffer Milling Company
Manufacturers of Pure High-Grade Winter Wheat Flour
Brands: Lebanon Bell, Flake White, Fluffy Ruffles
LEBANON, ILL.
Member Millers' National Federation
Capacity: 1,100 Sacks Daily

by government decree the price of every commodity processed from those commodities must also be controlled by government. Controls in every detail must follow in every process if the basic raw material is controlled. You cannot stand the pyramid on its head without its toppling over. The marketing structure must have a sound foundation.

Controlled markets generate black markets. They are the parents of the most iniquitous system in America. Black markets are the despoilers of character and honest trade. And all the white paint in the world won't make the black market white. You cannot, even with government whitewash, make a black market white. The free market is a white market!

Prof. F. A. Harper of Cornell University recently wrote a book entitled "The Crisis of the Free Market" which is, incidentally, must reading for all serious thinkers. In it he says, in part:

"A free economy cannot exist without free prices. Any statements or inferences to the contrary are delusive. Actions based on any other assumptions are either pitfalls or baited traps. Free prices are so much at the heart of a free economy as to be almost another name for the same thing. Prices are the forms of expression of all economic decisions, and free decisions have no other means of expression than through free prices. Prices in our economic affairs are the counterpart of the decisions of juries. A free (honest) decision of a jury rests on the freedom of jurors to express their honest opinions, and it is the same within a price system.

"Devices to prevent prices from being free and from being freely determined in the market, when created by law and enforced by law, become the equivalent of convicting a jury that persists in objecting to having its decision altered."

Once a nation of great trades, keen bargainers, and discriminating judges of values—wielding as buyers a dominating influence on what the producer would make—today we find ourselves, like the stray dog, taking the scraps and licking the hand of the maker or purveyor.

Instead of encouraging production the existing system of controlled prices is stifling it. Instead of insuring an equitable distribution of available goods at proper ceiling prices present controls are expanding the black market. And I would like to add a word for the smug and satisfied business executive who finds that the government fixing of prices and guaranteeing margins gives him more time for golf and bridge with, in some cases, more money. He should not be rocked to sleep by this soothing drug of government control for as it continues and extends itself his company won't require topflight men to run it. Rather, first class clerks will be able to carry out the instructions of Washington as well as he.

And how futile and wasteful the subsidy has been! Few people realize the startling and stupendous costs. These subsidies are running at the rate of almost $2,000,000,000 per year. With the passage of the building material subsidy program this figure would be boosted to $3,000,000,000 per annum. These subsidies are sucked from the federal treasury in lieu of higher prices. You and I know that the cost has been terrific and the results in increased production questionable. Subsidies have been an unsatisfactory substitute for a part of the price which would have gone to the farmer and others for increased production and the subsidy program places the farmer and producers of subsidized goods in a position of dependence on the generosity of government and subject to disastrous effects of ill-conceived judgments of a political agency.

After commenting on the evils of subsidies a recent editorial aptly said:

"Meanwhile, the administration, asking consumers to eat less, proposes to make it easier for them to eat more by continuing to pay a part of their grocery bills through food subsidies."

Subsidies are throwing our government into economic conflicts. We have every evidence needed that our government is now in the quicksands of its own creation. And at the same time it is intensifying the dependence of the people on government. Acceleration is being given the idea of government protection and support "from the cradle to the grave." Less and less under such conditions will people be able to stand on their own two feet. But in time the invalid will pay, and pay heavily. Ancient Romans also had their day with bread and circuses.

Subsidies and their extension invariably lead to increased government controls. They place the "big stick" in the hands of the government employee and help him to entrench himself more deeply. And parenthetically I might observe that despite the fact that the war is over there are still almost as many federal government employees as there were at the height of the war—approximately 3,000,000. We have been able to demobilize rapidly our army of many millions but our army of federal employees will, it seems, like taxes, be with us forever. Since government does not produce either

(Continued on page 30.)

PROTECT 80% FLOUR

"ENTOLETER" SYSTEM GIVES CONTINUOUS

BUG CONTROL plus!

1 KILLS ALL INSECT LIFE

Now, more than ever, your plant and products need the "ENTOLETER" system of continuous insect control. It helps you to avoid waste of scarce food materials . . . to protect 80% flour . . . to insure the high standards of your products.

2 ESSENTIAL IN FRAGMENT CONTROL

The "ENTOLETER" system is being used successfully to reduce fragment count. Send for copy of our latest bulletin describing methods of application.

3 AIDS PRODUCT UNIFORMITY

Food plants and flour mills have found that the "ENTOLETER" system offers an excellent means of blending flours, mixing ingredients in compounds and improving vitamin distribution. This, alone, more than justifies its cost.

ENTOLETER
INFESTATION DESTROYER

CONTINUOUS INSECT CONTROL SYSTEM

ENTOLETER DIVISION
The Safety Car Heating and Lighting Co., Inc.
1181 Dixwell Ave., New Haven 4, Conn.

Send full information on "ENTOLETER" Continuous Insect Control System.

Name .....

Company .....

Address .....

City, Zone and State .....

Canadian ★ ★

CONDUCTED BY A. H. BAILEY
Manager Canadian Branch
Lumsden Building *Toronto 2, Ontario*
Cable Address, "Palmking"

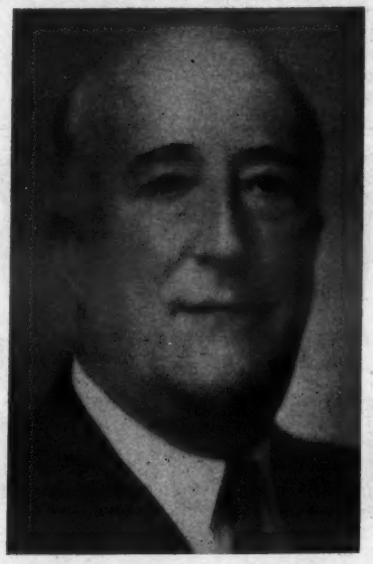
Removal of Canadian Wheat Pricing Restrictions Gets More Discussion

By A. H. Bailey

Toronto, Ont.—A growing amount of discussion as to the price of wheat and its control by governmental authorities is noted in Canada. The fact that United States prices to growers are now around 60c bu higher than those for similar grain in Canada naturally excites discussion on this side of the line, most of which is emphatically in favor of removing controls which make such a disparity possible. At the same time there is a feeling that a long-term price structure, such as Canada has built up since the late war began, has a lot to commend it.

Western wheat growers can never forget what happened to them after the last war when overinflated prices for wheat collapsed in ruins and stayed that way for a long time.

The argument in favor of open trading and decontrolled prices is based on a belief that nothing which Canada may now do by selling her wheat at reasonable prices will afford the slightest defense against another collapse when the famine emergency has subsided and Europe is again growing most of her own requirements in the way of wheat. There may be, when that time comes, a certain amount of gratitude toward Canada for her present pricing policy but it will not express itself in premiums for wheat then available for export.



COUNCIL HEAD — Reginald A. Stone, general manager of William Stone Sons, Ltd., Ingersoll, Ont., is taking an active part in preparations for the annual convention of the Canadian feed trade scheduled for June 17-19 at Winnipeg, Man. The convention is being sponsored by the Canadian Feed Manufacturers National Council of which Mr. Stone is president.

CANADIAN WHEAT MOVEMENT TO U. S. AT STANDSTILL

Toronto, Ont.—Shipment of Canadian wheat into the United States was almost at a standstill between April 18 and May 16, when only 29,406 bus were moved south. The first shipment of wheat by vessel for the 1946 navigation season was dispatched to Duluth-Superior. The total movement of Canadian wheat to the United States from Aug. 1, 1945, to May 16, 1946, amounted to 61,700,000 bus as against 101,200,000 for the same period last year.

Opening of navigation on the Great Lakes for the 1946 season occurred on April 8, nearly two weeks later than the extremely early opening of March 27 last year. Up to May 14, 1946, the total movement of grain since the opening of navigation amounted to 46,900,000 bus, about 45% below that of the previous year. Compared with 1945 wheat shipments revealed the greatest reduction, decreasing from nearly 53,000,000 bus to 24,200,000 this season. Low stocks of grain are responsible for reduced shipments in the period covered.

The strike of the Canadian Seamen's Union is threatening the movement of grain and the end of the strike is not yet in sight. In the meantime shipment of grain and other commodities by water is curtailed in Canada.

—BREAD IS THE STAFF OF LIFE—

BUCKERFIELD'S, LTD., BUYS INLAND ARMSTRONG PLANT

Vancouver, B. C.—The purchase of the Inland Flour Mills plant at Armstrong, B. C., has been announced by Buckerfield's, Ltd., of this city. The new buyer will take over operations July 1 under present management.

The Inland Flour Mills plant, which has a capacity for 20,000 bus of grain, has been in operation for 19 years. Buckerfield's, Ltd., is one of the largest feed firms on the coast and operates flour and feed mills in addition to dehydrating plants.

AUSTRALIAN WHEAT, FLOUR STOCKS REACH LOW POINT

Toronto, Ont.—The present heavy demand for wheat from the Pacific area is expected to exhaust Australia's exportable surplus long before the new crop becomes available, the Canadian trade commissioner in Melbourne has advised his office in Ottawa.

Australian wheat stocks, including flour, totaled 88,230,000 bus on May 4, he said. Exports of wheat and flour during April amounted to 81,003 tons of wheat and 81,444 tons of flour, most of which was shipped to India.

Rainfall is satisfactory in nearly all states except western Australia. The whole country is experiencing one of the most favorable seeding seasons in many years, but inadequate fertilizer supplies and the low price being granted farmers are considered to be serious limiting factors in the attainment of the 1946 goal of 15,500,000 acres.

—BREAD IS THE STAFF OF LIFE—

Wheat Seeding Nearing Completion in Prairie Provinces

Toronto, Ont.—Wheat seeding is now practically completed in Alberta, Saskatchewan, and Manitoba and seeding of coarse grains is also nearing completion, according to a recent report on crop conditions in the prairie provinces issued by the Winnipeg office of Lake of the Woods Milling Co., Ltd. The report said that weather up to May 28 continued to be generally dry with temperatures steadily rising to 80 and 90 degrees in most districts. Since May 28, however, there have been moderate rains in Alberta and southern and central Saskatchewan and Manitoba.

No permanent damage other than a temporary setback appears to have resulted from severe frosts reported earlier in the month. Pastures, except in northern areas, are in poor condition due to recent freezing temperatures and lack of rainfall.

The prolonged period of almost rainless weather, coupled with high winds and soil drifting in central and southern districts, rapidly exhausted surface moisture and though growing crops have not been permanently damaged to any extent, germination has been uneven and crop conditions will undoubtedly rapidly deteriorate unless the situation is relieved by further heavy and well distributed rains within the next 10 days.

—BREAD IS THE STAFF OF LIFE—

TO ATTEND FEED CONVENTION

Vancouver, B. C.—A large delegation from the British Columbia Feed Manufacturers Association will attend the national convention of the Canadian Feed Manufacturers Association to be held at Winnipeg June 17-19. Heading the coast group will be President K. C. Clarke of Buckerfield's, Ltd.

—BREAD IS THE STAFF OF LIFE—

H. C. WRIGHT NAMED HEAD OF NEW FIRM

Toronto, Ont. — Announcement of the appointment of Hector C. Wright as vice president and general manager of General Bakeries, Ltd., a newly formed company, was recently made. Mr. Wright was formerly manager of the Montreal plant of Canada Bread, Ltd. He will be located with the new company at Toronto.

April Flour Output in Canada Totals 2,216,930 Bbls

Toronto, Ont.—Canadian flour production in April amounted to 2,216,930 bbls, compared with 2,126,235 in the same month last year. Output in three quarters of the present crop year ending with April totaled 19,743,721 bbls, while in the corresponding period of preceding year the amount was 18,620,740 bbls.

It is possible by the end of the current crop year Canadian mills will have turned out 26,000,000 bbls of flour.

Mills reporting April operations had a total capacity of 89,972 bbls per 24-hour day and over a 25-day working period in the month 98.6% of this was effective. Of the total quantity of flour produced in the nine months, winters represented 855,806 bbls, as against 831,766 in the same period of previous crop year.

The quantity of flour exported from Canada in April was 1,478,071 bbls, as against 1,367,550 in that month last year. Exports in the nine months of the crop year ending with April amounted to 9,885,438 bbls, compared with 9,761,267 in the same period of crop year 1945-46.

—BREAD IS THE STAFF OF LIFE—

MILLERS' GROUP TO HOLD ANNUAL GOLF TOURNAMENT

Toronto, Ont.—The annual golfing tournament of the Canadian National Millers Association is to be held at the Seigniory Club, Montebello, Que., on June 14.

Members and guests will arrive at the club in time for dinner on the previous evening, Thursday, June 13, leaving the following day entirely free for the golfing events.

The Seigniory Club is a favorite meeting place for this sporting event of Canadian millers. The course is one of the most beautiful in Canada and the surroundings and accommodation all that could be desired.

—BREAD IS THE STAFF OF LIFE—

BRAZIL, VENEZUELA TO GET SOME FLOUR

Winnipeg, Man. — The Canadian Wheat Board has advised all mills that a limited quantity of export flour may be sold to Northern Brazil, and also a limited quantity, bromated to suit the needs of the country, may be sold to Venezuela. Shipments are to be made from the mills by June 30 this year, and all offers are to be made subject to confirmation by the Canadian Wheat Board.

The Canadian Wheat Board will accept any such offers or portion thereof within the quantity determined. The basis of sale, including F.A.S. seaboard price in Canadian funds, per 196-lb bbl, bulk basis, must accompany each offer.

SANTA FE ELEVATOR "A"

Capacity 10,200,000 Bushels

DAVIS-NOLAND-MERRILL GRAIN CO.

Board of Trade Building KANSAS CITY, MO.

SIMONDS-SHIELDS-THEIS GRAIN CO.

KANSAS CITY, MISSOURI

Operating the Rock Island Elevator, Capacity 4,000,000 Bus.

- FRANK A. THEIS, *President*
  F. J. FITZPATRICK, *Vice President*
  F. L. ROSENBURY, *Secretary-Treasurer*
  A. H. FUHRMAN, *Assistant Secretary-Treasurer*
  J. L. YOUNG

- We offer you sixty-two years of established good reputation and a present experienced management.

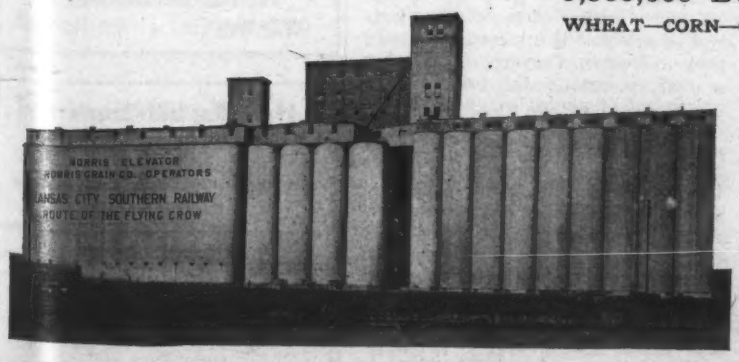
NORRIS GRAIN COMPANY

NEW YORK CHICAGO ST. LOUIS BALTIMORE TOLEDO KANSAS CITY TORONTO WINNIPEG VANCOUVER LONDON LIVERPOOL

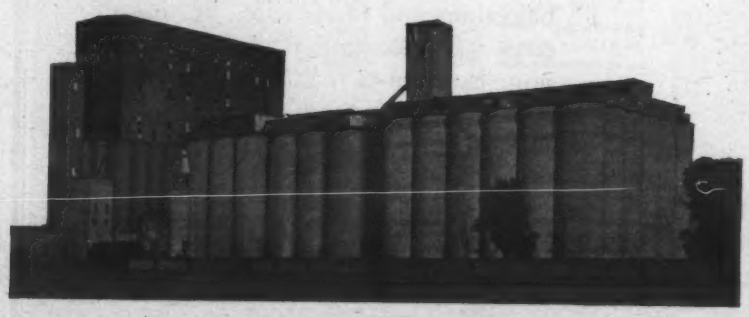
Selected hard and soft milling wheats for any blend

5,300,000 BUS STORAGE

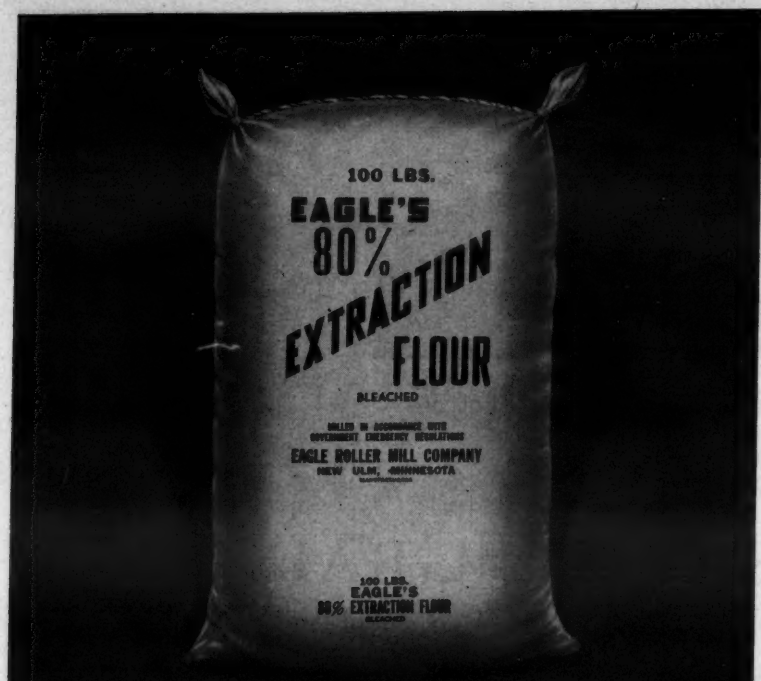
WHEAT—CORN—OATS—FEED GRAINS



NORRIS ELEVATOR, 2,800,000 BUS



BURLINGTON ELEVATOR, 2,500,000 BUS



Milled with the same care and skill that have made DANIEL WEBSTER and GOLD COIN outstanding among fine flours in the past. You can be sure EAGLE'S will be the best of its kind.

Eagle ROLLER MILL COMPANY

Dependable Since 1856 NEW ULM, MINNESOTA

Our **GUARANTEE** *Still Stands...*

We have always advertised our fine flours with the statement that we back them to the limit for the particular use to which they are adapted.

This guarantee extends to La Grange Mills 80% flour. It is made from closely selected spring wheat, and as carefully milled as men and machines can make it. This results in satisfaction for the bakeshop and housewife. In these days of uncertainty about flour, your best bet is to stick to the mill that has always made quality its first objective.

LA GRANGE MILLS

RED WING, MINNESOTA

PIONEER MILLERS OF SPRING WHEAT

Free Society

(Continued from page 27.)

goods or wealth and is merely **administrative** in character, that part of these millions of federal employees (and the number would be very substantial) which is not absolutely needed in the **legitimate** functioning of government represents a waste of **productive** power which the nation can ill afford. These people should be turned out to produce much needed goods and materials.

The government has become so embroiled in its own network of red tape and controls that we find that much of congress' time is absorbed in investigating this and that government agency's activities. Our President is forced to drop matters of state and of great international importance to settle wage and price disputes. In the meantime, a pitched battle is going on among labor and management and all related groups largely because government controls won't permit adjustments without reporting to the captain's desk (a) to get approval of the wage increase, and (b) to find out if the producer may increase his price. All of this contributes to the weakening of our nation at a time when we should be producing in a big way and singing at our work.

It should be obvious that all of the most brilliant minds in the world cannot devise or make work a regimented economy which would equal that which we could have if we were a free people economically. And our weakness serves us ill in a period when we need to be strong.

Now, as the people of the nation gradually relinquished, in a critical period some 10 years ago—presumably for an "emergency"—certain of their God-given prerogatives and permitted the centralization of our economy, they became drugged by the seeming simplification of life. It seemed so much easier to have a paternalistic government worry about their problems—and create during any period of seeming "crisis" new types of controls or aids. The war thrust us deeper into this quicksand, so that today we are indeed a nation on **crutches.** And there we will stay until some of the spirit of our forefathers gives us the gumption and guts to throw the crutches away. In the meantime we should do some soul searching and realize that actually no one took anything away from us. No—we gave it away—and if we are not alert to the trend and tide and fail to fight we will continue to drift down the stream until it is too late to turn back. After all, we get in life pretty much what we "earn" by our acts. We are "earning" a day of grim reckoning!

On this subject of government control of prices it is interesting to note that a Roman Emperor—Diocletian—tried to control the price not of wheat but of almost every product—beef, grain, eggs, clothes and other articles. This was 305 A.D. He set official prices for these products and the penalty for buying or selling at any other price was death. The result was the producers refused to deliver when prices were low and consumers refused to buy when prices were high and the plan failed completely. Writing on this subject in 314 A.D., Lactantius said:

"Diocletian set himself to regulate the prices of all vendible things. There was much bloodshed upon very

MILLS STRATEGICALLY LOCATED IN THE CENTRAL WEST AND ON THE PACIFIC COAST . . .

Igleheart's
SPONGE TYPE...
CAKE TYPE...
PIE TYPE...
PASTRY TYPE
COOKIE TYPE
Swans Down
DOUGHNUT MIX
GOLDEN RISE ALL-PURPOSE MIX—

IGLEHEART BROTHERS
INCORPORATED
EVANSVILLE, INDIANA

North Dakota and Montana
FANCY SPRING PATENTS, CLEARS and WHOLE WHEAT FLOUR
Hi-Protein
A Specialty
Mills in the Heart of the Spring Wheat Section
Capacity, 700 Barrels
MINOT FLOUR MILL CO.
MINOT, N. D. GLASGOW, MONT.

ATKINSON MILLING CO.
"The Mill for Bakers"
MINNEAPOLIS, MINN.

DOBRY'S BEST
and
BEST OF THE WEST
DOBRY FLOUR MILLS, Inc.
YUKON, OKLAHOMA

"Whitewater Flour"
Ground Where the Best Wheat Is Grown
WHITEWATER FLOUR MILLS CO.
Whitewater, Kansas

THE ROSS MILLING CO.
Choice Quality Flour
Plain and Selfrising
OTTAWA KANSAS

Hart-Bartlett-Sturtevant Grain Co., Inc.
Line country houses in five states
Terminal houses at Kansas City and St. Joseph
Kansas City, Mo.

Farmers & Merchants Milling Co.
Quality Flours
Mill at Glencoe, Minn.
Sales Office Minneapolis

BETTER FLOURS FOR BETTER BAKING
A Complete Flour Service

★ NORTHWEST 80
★ SOUTHWEST 80
★ HI-GLUTEN 80
★ CAKE 80
★ PASTRY 80
★ CRACKER 80
★ COOKIE 80

RUSSELL-MILLER MILLING CO.
MINNEAPOLIS 1, MINN.
Occident, American Beauty and Other Bakery Flours

The Standard Others Strive to Reach
WHITE SWAN
FLOUR
SPRINGFIELD MILLING CORPORATION
MINNEAPOLIS • MINNESOTA

IF BUYING
MILO ★ KAFIR
Phone—Wire—or Write
Transit GRAIN COMPANY
FORT WORTH 1, TEXAS
Handling ALL OTHER GRAINS and FIELD SEEDS

The Williams Bros. Co.
Merchant Millers KENT, OHIO, U. S. A.
Specialists Ohio Winter Wheat Flour
All our wheat is grown on "Western Reserve" and bought from the growers at elevators we own and operate.

BLACK BROS. FLOUR MILLS
1863-1946
FLOUR 2,000 SACKS
STOCK FEED 250 TONS
WYMORE • NEBRASKA

Bowersock Mills & Power Co.
LAWRENCE, KANSAS
ZEPHYR FLOUR
AS FINE A BAKING FLOUR AS A BAKER CAN BUY AT ANY PRICE
Established 1874

Lyon & Greenleaf Co., Inc.
MILLERS OF
High Grade Soft Winter Wheat Flour
Plain and Selfrising
LIGONIER, IND. NORFOLK, VA.

slight trifling accounts and the people brought provisions no more to markets, since they could not get a reasonable price for them; and this increased the dearth so much that at last, after many had died by it, the law itself was laid aside."

The ancient Greeks tried out the system of controls. The Athenian government took over the entire wheat business. The government set prices on wheat. It also appointed what it called "market masters" to control the market. The market masters could not control the forces of supply and demand and therefore could not keep the price under control. There was a dearth of wheat in Athens and black markets started just as they do anywhere and everywhere when government attempts to control prices and markets. At that time a famous orator made speeches against black marketeers and the inefficiencies of government control. He suggested that one way to correct the situation would be to execute a number of the "market masters" as an example to others. Many people were executed but naturally neither supply nor prices fluctuated any less and so the whole price program failed and had to be abandoned.

In closing my remarks I want to observe that the United States in its fiscal and economic policies, is ignoring the law of supply and demand. It is attempting to sweep the ocean back with a broom. We will all grant that we were able to do a magnificent job in smashing our enemies, the Germans and the Japs, **but there is one thing in the long run the United States cannot defeat and that is the law of supply and demand.** The sooner we realize that the better off we will all be.

After the last war a fellow Hoosier, Tom Marshall, then vice president of the United States, when asked for an observation on conditions, said, "What this country needs is a good five-cent cigar." I should say that what we need now is at least five cents worth of good, common horsesense.

—BREAD IS THE STAFF OF LIFE—

ANNUAL MEETING SCHEDULED

Walla Walla, Wash. — The Pacific Northwest Crop Improvement Association will hold its annual meeting at the Marcus Whitman Hotel here on June 14, Willard N. Crawford, field secretary of the organization, has announced. A program that will include eight reports or addresses has been arranged. Each talk will be followed by a discussion period. A meeting of the board of directors will be held following the open meeting.

DISTILLERY GIVES FLOUR FOR FAMINE RELIEF

New York, N. Y.—A donation of 1,000,000 lbs of flour to United Nations Relief and Rehabilitation Administration by United Distillers of America, Ltd., was announced recently by the firm's president, Dr. Armand Hammer, who said he witnessed "the terrible famine in Russia" as a relief worker after World War I. Dr. Hammer said the flour was part of a department of agriculture allocation to his company for making sugar syrup at the firm's Baltimore, Md., plant, but added "although there is a critical shortage of sugar in this country, it seems to me that the needs of hungry people should have priority."

Produced by the Millers of
KELLY'S FAMOUS
KELLY'S K-80 FLOUR
Kelly's K-80 is Emergency Flour, milled under WFO-144 restrictions, with the same care and skill that made KELLY'S FAMOUS a flour of superior quality.
When government restrictions are lifted, look for KELLY'S FAMOUS
THE WM. KELLY MILLING COMPANY — KELLY'S FAMOUS FLOUR
The WILLIAM KELLY MILLING COMPANY
HUTCHINSON, KANSAS

AMERICAN MAID FLOUR
ARROW PROTEIN CONCENTRATES
ARROW LIVESTOCK FEEDS
HIGH PROTEIN HARD WINTER WHEAT
ARMY E NAVY
Leaders in Domestic Quality Trade
Direct Exporters
ARROW MILLS, INC.
HOUSTON, TEXAS

HIGH UTILITY PATENT
Country-Milled from Country-run Wheat located in the very center of the High Protein Turkey Wheat Country.
INDEPENDENT OWNER MANAGED
The WALL-ROGALSKY MILLING CO.
McPHERSON, KANSAS

Stuffed Straights

FROM THE MANAGING EDITOR'S SIFTER

By Carroll K. Michener

JEFFERSON'S MILL DIDN'T PAY.—You knew, of course, that Washington was a flour miller and that Lincoln worked in a mill, but did you know about Thomas Jefferson's claim to immortality for having been a member of the industry? He was a mill builder and owner—and a profitless one at that. We are reminded of this circumstance in the life of the great Democrat by the latest of his biographers, Saul K. Padover.

While he was American ambassador to France, Mr. Padover says, Jefferson visited England and saw "a gristmill run by steam, turning eight pairs of stones." This was the famous Boulton plant, and Jefferson came away from it with copious sketches and notes. Some years latter, in one of his brief respites from public service, he designed and built a four-story stone mill on the Monticello estate. The cost was $30,000, a large sum for that day. A canal three quarters of a mile long, necessary to bring water to the mill, cost additional thousands.

Shadwell, the mill was called. Its ruins still lie along the Rivanna River, together with a part of the dam. From Shadwell flour was shipped to Richmond, Philadelphia and other points, and was sold in the neighborhood as well, but the enterprise did not prosper. An earlier biographer, referring to the various manufacturing establishments of the Monticello estate—among which was a "nailery" in which iron nails were made by hand—says the gristmill "was elevated by the imagination of contemporary satirists to a situation on a mountain ravine, 'where nothing was lacking but water.'" But it seems clear that the mill's conversion factor was faulty on various other counts.

● **When Jefferson returned** to Monticello in 1794 to take up anew the business of farming, after 10 years of absence spent partly as minister to France and partly as Washington's secretary of state, his estates comprised more than 10,000 acres, of which not 2,000 were ever under cultivation at any one time. There were four farms, each under an overseer who reported to the manager at Monticello, as did the foreman at the mill. The owner left little discretion to subordinates; his existing papers disclose his practice of writing out instructions to the last detail. This is his memorandum to his manager on completing the mill:

"The first work to be done is to finish everything at the mill; to wit, the dam, the stone still wanting in the south abutment, the digging for the addition to the toll mill, the waste, the dressing of the banks and hollows about the mill houses, making the banks of the canal secure everywhere."

Jefferson was no more successful as a farmer than he was as a miller, it seems from what the historians say. He had farmed little in his younger days, and from his twenty-sixth year, in 1769, to his retirement as secretary of state in 1793, he was almost continuously in public service, as member of the Virginia House of Burgesses, member of the Continental Congress, governor of Virginia, member of Congress under the Confederation, minister to France and cabinet member. Then, after only four years in retirement, he went back to the capitol as vice president for four years and president for eight thereafter. Thus he was more of a book farmer than a dirt farmer, though his sympathies and interests were always profoundly agricultural.

● ● ●

* * * **OSIECK** is a name long know to the flour importing trade of Europe and to the flour exporting trade of America. Founded in 1854, the firm has claimed the energies of three generations of the Osieck family, the youngest of which is represented by F. C. Osieck, who is now in this country on his first visit since the war. He is no stranger to America, however, for he was here on other occasions prior to World War II. His father, H. W. Osieck, was among members of the family who visited this country in earlier years. H. W. died during the war. * * * American flours were introduced to the Dutch trade in the early seventies, and through all the years since then the firm (now styled Comm. Venn. Handelmij. v. h. Osieck & Co.) has been sole agent in Holland for Pillsbury flour. The business now is entirely in F. C. Osieck's hands. His name has been inscribed in the guest book of The Northwestern Miller, as was his father's before him. He had no difficulty at all in finding his father's name, carved in a table top in the club room at the home office in Minneapolis, as are so many others of the earlier great names in flour.

● ● ●

THE WHY OF WHEAT HOARDING.—Fargo Forum says North Dakota farmers have some wheat left on their farms—"some of them have considerable wheat, and they propose to hang onto it—at least until they are well assured that nature is going to give them a crop this year."

"Perhaps some folks back east," the Forum's editor adds, "when they learn of this, again will accuse the farmer of hoarding [the Little Flower's inferences and implications still rankle]. If being sufficiently foresighted to hold back ample reserves of seed for the 1947 crop is hoarding—then perhaps this might be called hoarding—and a mighty good thing for some of these folks back east it might prove to be.

"The wheats from which bread is made, also those from which macaroni is made, are subject to a variety of diseases and to ravages by hordes of insect pests. One of the most fearsome scourges of the wheat fields, when it gets out of control, is black stem rust.

"America was fortunate that—in the time of great crisis through the war years—our plant breeding scientists had developed strains of wheat which were immune to the rust diseases. The wheat producers are acutely aware of the danger if the supplies of these precious strains should be depleted. That is the big reason they are 'hoarding' their supplies. They want to be very positive that there is sufficient in the bin for next year's crop, should anything happen to take this one.

"Too, many of the wheat producers in the West learned, during the bad drouth years in the early 30's, that a small reserve of wheat might have saved their breeding stock. If there had been just a few hundred bushels of wheat in their granaries to supplement the scanty roughage rations they might have been enabled to preserve a few head of their cattle, from which to build back their herds.

"Remembering that terrible experience, some farmers will hold reserves of wheat for feed as well as for seed. It might spell the difference between survival of their business and bankruptcy."

● ● ●

IRONICAL SITUATION.—Our Atlanta correspondent calls attention to what is described as an ironical situation. She refers to a public statement made by Thomas Oxnard, president of the Savannah (Ga.) Sugar Refining Corp., to the effect that the Combined Food Board "is shipping raw sugar to certain countries lacking in coal, and is going to have to ship coal from the United States in order to do the refining."

"In view of our present coal situation," commented Mr. Oxnard, "this is nothing short of tragic, particularly when a great many of the U. S. refineries, including the Savannah refinery, use fuel oil or natural gas, and therefore would not require coal to refine this raw sugar."

Mr. Oxnard said he was prompted to make this statement due to criticism from housewives who raised a howl when a news item revealed that boatloads of sugar were going from Savannah to points overseas. He pointed out that he had no control over these shipments because they were made from the refinery's allotment for export by the Commodity Credit Corp. He said that Savannah sugar refinery is working far below capacity and, under the present arrangement, will continue to work far below capacity.

Our correspondent contributes another odd angle to this curious state of affairs. Although Mr. Oxnard did not mention it, the port of Savannah, she says, recently has received shipments of sugar refined in other countries. Furthermore, sugar refined in Savannah and shipped to the Orient has shown up in recent imports—still in the original Savannah containers.

Wondrous are the ways of the government food planners.

● ● ●

* * * **BARON E. DE CARTIER DE MARCHIENNE, G.C.V.O., G.B.E., D.C.L., LL.D.**, Belgian ambassador to the Court of St. James, died in London recently, ending a diplomatic career that began in the nineties. His name is in the guest book of The Northwestern Miller and his is among the distinguished signatures that have been carved into the table tops of the club room at the home office in Minneapolis. * * * Baron De Cartier was a guest of The Northwestern Miller upon two occasions—the first when he came to Minneapolis during World War I, as Belgian minister in Washington, in connection with Belgian relief; and the second when, as Belgian ambassador to this country, he attended the fiftieth anniversary celebration of The Northwestern Miller in 1923. The baron, on both occasions, expressed the gratitude of his people for the food relief program of 1915-16, and in particular to the flour millers of this country for their gift of a shipload of flour, and to William C. Edgar, then editor of this journal, for his part in getting together and delivering that timely cargo.

——BREAD IS THE STAFF OF LIFE——

A. LEAL BIBBINS PLANS TO LEAVE G.L.F. POSITION

Buffalo, N. Y. — A. Leal Bibbins, founder of the G.L.F. Seed Service and president of G.L.F. Mills in Buffalo, a nationally known figure in the field of farm co-operatives, will retire Sept. 1 upon completion of 25 years' service.

Mr. Bibbins will relinquish his official duties as president of G.L.F. Mills July 1, but will remain on active call until Sept. 1.

James A. McConnell, of Ithaca, general manager of the Co-operative G.L.F. Exchange, of which G.L.F. Mills is a division, will take over as administrative head of G.L.F. Mills operating the main functions of the mills under three vice presidents: E. W. Stuhr, in charge of grain and feed purchasing; E. L. Chase, in charge of feed and grain production; Larry Krutz in charge of seed.

——BREAD IS THE STAFF OF LIFE——

UNENRICHED FLOUR MUST BE LABELED SUCH IN N. Y.

New York, N. Y.—A decision by the attorney general of the state of New York to the effect that unenriched flour must be so labeled was read by Herbert H. Lang, president of the New York Association of Flour Distributors, at the May 23 meeting of the group.

The decision, according to a letter received by Mr. Lang, is based on the premise that when the enrichment law went into effect it contained a definition of flour with the the main purpose of enacting a standard for flour. Accordingly, under the provision, "it is to be deemed misbranded if merely described as 'flour' and does not conform to this standard," the decision stated.

In reply to the letter outlining the decision, Mr. Lang requested postponement of action on the matter until Jan. 1, 1947.

Bakery Testimony

(Continued from page 13.)

Mr. McCarthy's statement by revealing that by "the 16th of this month about 60 to 65%" of the bakeries will be closed throughout America. About 75% will shut down by June 22 he warned, unless bakers get flour, sugar, fats and oils.

The recent USDA move to lend wheat of the Commodity Credit Corp. to millers for the domestic production of flour brought cool reactions from the witnesses. Wheat which is out of position as to milling centers cannot be borrowed by mills, even though they need it, it was reported.

Uncertainties Emphasized

One witness pointed out that no wheat will be borrowed to be repaid in kind later if there are uncertainties regarding the life of the subsidy program and future price levels for wheat—either of which, he added, casts doubts on the price of wheat whenever the government demands repayment.

Mr. Jungewaelter testified that a mill, at best, would get only enough wheat for 37½% of its 1945 domestic distribution under the loan plan.

Reports indicated that even the wheat now being harvested is not moving freely to principal southwestern milling centers, one witness revealed. Therefore, neither the loan of wheat nor the new harvest has provided bakers with the certainty that they will get the permitted 75% or 85% of flour—or a certainty of any amount.

Official Reports Criticized

The witnesses also lashed at the government's reports on the tonnage shipped overseas. Of the total 3,995,000-ton wheat exports through June 6, about 1,400,000 were listed as simply "UNRRA" with no country indicated. Another 168,000 tons were "miscellaneous" with a footnote that this included 28 Latin American, Asiatic and African countries.

Thus, one witness stressed, 1,628,000 tons or 41% of the total exports were practically anonymous—"we do not know what countries have received them or in what quantities." The 168,000 tons to Latin America, he said, amount to enough flour for 451,584,000 1-lb loaves of bread or enough for almost 12,000,000 people for the five-month period (to June 6 which the report was dated) with four slices a day.

Sugar Speaks Its Piece

A large sugar distributor representative, O. H. Lamborn, also criticized government handling of food commodities. He demanded that subsidies be discontinuued on sugar to dispel the black market and "fictitious prices," that government control from any and all phases of sugar business be halted—except rationing until supply and demand balance—and that a single man, preferably the Secretary of Agriculture, synchronize the government's remaining sugar control.

Mr. Lamborn recommended also that members of the sugar industry, who have practical knowledge, should be called in by government to counsel as to the positive steps to be taken to insure an increase in the production of sugar in 1947 and 1948.

He contended that the pattern followed in the past, where industry men were called in on the so-called advisory committees and their advice largely ignored, would be changed. The witness blasted government censure which, he asserted, paralyzed industry with fear of criticizing the famine program—even when many phases were "totally unsound."

OPA

(Continued from page 13.)

nessmen say that he has recently accepted recommendations for increases in grain prices and on dairy products as soon as the need was presented to him, although in the matter of dairy products he was sharply reversing a decision publicly announced by him a week earlier.

While it is difficult to ignore businessman evaluation of Mr. Bowles it must be remembered that on other occasions Mr. Bowles has spoken with equal fervor for removal of price control but he has not always followed up this fervor with action. It is feared that Mr. Bowles has too frequently been led into economic errors by advisors who were not familiar with the business mechanism. The corn price is a case in point. Had corn prices been boosted late last year or not later than January of this year, more corn would have moved into commercial channels and the unprecedented feeding of wheat to livestock might have been halted. It is decisions of this type which have destroyed the confidence of the businessman in Mr. Bowles and provoke misgivings now over his future intentions if he is to be given another extension of authority over price stabilization.

From the grain trade point of view all arguments against further control over these commodities appear to have been fully presented to the government. An amendment to decontrol grain prices, now that livestock and dairy products are ordered decontrolled, appears necessary to make Congress consistent.

However, both parties to the OPA controversy are predicting a quick veto to the bill when it reaches the White House. The Senate will probably finish its debate and pass the bill before the end of this week and a quick conference between the Senate and House should bring the bill to the President not later than June 17. If, as expected, a prompt veto is forthcoming, it is unthinkable to observers here that Congress, going into an election year, will dare to permit price control to die and face the possibility on election eve of rising food prices.

All of which leads to the conclusion that an extension of price control over agricultural commodities will be voted with definite decontrol features included.

The Senate bill extends price control until June 30, 1947, and provides a general decontrol policy, the aim of which is to end price control over all commodities and products as rapidly as possible. In this connection the President is ordered to institute a fiscal policy which will supplement price and wage control and insure that price control can be terminated on June 30, 1947.

The Senate bill also authorizes the President to report to Congress not later than April 1, 1947, on commodities that are in short supply and to make recommendations for the transfer of control over these commodities after June 30, 1947, to permanent agencies of the government appropriately suited to handle the price problems involved.

—BREAD IS THE STAFF OF LIFE—

J. A. Shellenberger to Assist Peruvians With Milling Problem

Manhattan, Kansas.—J. A. Shellenberger, head of the department of milling industry, Kansas State College, will spend two months in Peru this summer to assist that country in devising means to relieve the present cereal grain shortage.

He will serve in an advisory capacity to Peruvian food officials, at the request of the Office of Foreign Affairs, U. S. Department of State.

Peru imports most of its wheat and the world shortage of grain has curtailed its purchases. The country is not faced with famine, but will attempt to conserve as much as possible of its grain supplies. Its imports of wheat have been cut from 12,500 tons monthly to 8,000 tons.

Measures to be used will include making maximum use of present wheat imports, additional use of other grains and methods of making more wheat available from domestic sources. An extraction rate of 82½% now is mandatory in that country.

Peruvian mills compare favorably in construction with those in this country, Dr. Shellenberger said, but there may be room for improvement in their operation. The milling products in demand in Peru have not proved to be an incentive for developing the best techniques.

Dr. Shellenberger will leave New Orleans, July 2 by plane and will return in time for the beginning of the fall term at the college here. Last summer he went to Puerto Rico to assist in making a study of the feasibility of building flour mills in that country.

—BREAD IS THE STAFF OF LIFE—

MAIN OFFICE REMODELED

Kansas City, Mo. — Extensive remodeling and refurnishing of the main office of Flour Mills of America, Inc., in the New York Life Building, Kansas City, has been practically completed. Executive offices have been rearranged, fluorescent lighting installed, and total office space enlarged.

LATHROP GRAIN CORP. LEASES MISSOURI MILL

Has Option to Buy 2,300-Sack St. Mary's Plant Formerly Operated by Ragland Bros.

Kansas City, Mo.—The Lathrop Grain Corp., Kansas City, has leased, with option to purchase, the St. Mary's (Mo.) Mill, W. B. Lathrop, president of the grain firm, has announced.

The St. Mary's Mill, idle in the recent weeks of wheat shortage, previously had been operated by the Ragland Bros. Co., wholesale grocery firm of Chattanooga, Tenn. The mill properties have been under the management of Clyde B. Smith of the First National Bank in St. Louis.

The mill has a capacity of 2,300 sacks daily and produces both hard and soft wheat flours. There is storage capacity for about 225,000 bus.

The original St. Mary's Mill, established in 1858, was operated for many years after the turn of the century as the St. Mary's Mill Co. by the Schaaf family. Louis Schaaf and subsequently his sons Edward and Philip, conducted an extensive business in southern states. St. Mary's is tributary to an area that produces a wheat crop of around 300,000 bus.

The Lathrop Grain Corp. was organized May 1 by W. B. Lathrop, who resigned as director of the Kansas City office of the Commodity Credit Corp. Erich B. Reiner is executive vice president of the grain firm and David M. Hymans vice president. Mr. Reiner and Mr. Hymans previously were associated with the Houston (Texas) Milling Co.

—BREAD IS THE STAFF OF LIFE—

SYRACUSE BAKERIES RE-OPEN

Syracuse, N. Y.—Three large bakeries here which have been closed by a labor dispute agreed to resume production on June 7, under terms which pave the way for arbitration. These supply about 60% of the bread in this area and Mayor Frank J. Costello, in bringing company and union officials together, asserted that their closing created an extreme hardship on the public.

More Wheat Slated for Mexico; K. C. Workers Withdraw Boycott

Kansas City, Mo.—Government approval has been given to an additional export shipment of 900,000 bus of wheat to Mexico in June. This follows authorization previously given for 500,000 bus of wheat and 500,000 bus of corn for May. The corn authorization may be filled with wheat instead through the process of exchange of wheat for the corn with corn millers.

Flour millers and the grain trade protested again to Washington authorities against these shipments at this time, when so many domestic flour mills are out of wheat or able to run only intermittently for lack of grain. Many wires and letters were sent to the Department of Agriculture and congressmen.

The protests, however, had no effect at Washington, where Department of Agriculture officials said that similar authorizations are contemplated each month during the coming crop year. Mexico has a quota of around 1,000,000 bus of United States wheat monthly, it was stated, which had been approved by the Combined Food Board after application in the regular manner and based on facts supplied to the board of the need of grain to supply that nation's food requirements.

Following announcement of the program of the Commodity Credit Corp. for lending wheat to mills for domestic flour production up to 50% of authorized quotas for June, the AFL grain processors' union withdrew its boycott against the loading of Mexican wheat from Kansas City elevators. J. A. Leveridge, Kansas City, vice president of the union, said that government promise of wheat for United States mills led the union to reverse its stand, which was taken in protest against the closing of milling plants.

SALES AND ADVERTISING—Paul S. Gerot, newly appointed vice president, sales and advertising, Pillsbury Division of Pillsbury Mills, Inc., was formerly in charge of the company's West Central division, grocery products sales at Chicago.

NEW GENERAL COUNSEL of Pillsbury Mills, Inc., Bradshaw Mintener, a member of the legal department since 1933 and formerly assistant general counsel, was elected to succeed Clark Hempstead who recently retired.

V. P. AND CONTROLLER—Recently elected vice president and controller of Pillsbury Mills, Inc., J. Irl Beatty joined the company in 1926, becoming a director and controller in 1933 and secretary in 1936.

VICE PRESIDENT, PRODUCTION, for the Pillsbury division of Pillsbury Mills, Inc., M. F. Dougherty has been a member of the Pillsbury organization since 1921. Until his recent promotion he was production manager for the division.

MOSTLY PERSONAL

John P. Zerega, Jr., of A. Zerega's Sons, Inc., macaroni manufacturer of Brooklyn, N. Y., on a recent Minneapolis visit, reported that, while his firm has not been able to get all the semolina and durum flours it needed, it is surprising that the company was able to get as much as it did, considering the wheat situation.

●

Fred H. Paul of F. H. Paul & Stein Bros., New York, who represents Tripette & Renaud Bros., the French bolting cloth manufacturer, after attending the operative millers' convention in Chicago, is visiting with his miller friends in Minneapolis.

●

Frank H. Tennan of Havana, Cuban representative of International Milling Co., who is visiting in Minneapolis, was hospitalized for a few days with an acute attack of indigestion. He is out again, however, and will probably remain in Minneapolis for two more weeks.

●

David Lee, formerly of Columbus, Ohio, is now active as a demonstrator in Iowa, Minnesota, North Dakota and South Dakota, Nebraska and Missouri for the J. R. Short Milling Co., Chicago.

●

Samuel L. Rice of the Rice Grain Co., Toledo, and of the Metamora (Ohio) Elevator Co., is receiving congratulations these days for two reasons: (1) He recently observed the forty-fifth anniversary of his entrance into the grain business and (2) he has been joined in business by his son, **Samuel, Jr.,** who recently was enrolled in Navy V-12 training at Duke University.

●

Kenton D. Keilholtz, for many years engaged in the grain business at Toledo but now a Hollywood resident, returned recently to the scene of his former business affiliations to attend the marriage of his son.

●

P. A. Kier, manager of the National mill of the National Biscuit Co. at Toledo, has left for a two-week vacation at Deer River, Minn., where he expects to forget, for that time, his troubles with the wheat situation. Meanwhile, the mill will be closed for want of wheat.

●

Charles Swain, sales manager for the Kansas Flour Mills Co., Kansas City, recently suffered a painful burn which kept him away from his desk for a time. While he was bathing, the hot water spigot was accidentally knocked open, severely scalding his foot.

●

Recent visitors to Kansas City were **Thurman H. Sherwood,** vice president and general manager, Walnut Creek Milling Co., Great Bend, Kansas, and **R. B. Laing,** vice presiden and secretary, Abilene (Kansas) Flour Mills Co.

●

Elmo F. Merrill, treasurer and general manager, Moore-Lowry Flour Mills Co., Kansas City, has returned from a three-week trip through central and eastern states. While there was a definite shortage of bread in nearly all areas, Mr. Merrill found no place where bread actually was unobtainable at some time.

●

Among recent visitors to the Chicago office of the federation were: **H. W. Newton** of Kreider Mills, Lebanon, Pa; **Harold Altmansberger,** vice president, Igleheart Bros., Inc., Evansville, Ind; **Ralph Voigt,** president, Voigt Milling Co., Grand Rapids, Mich; **J. A. Willis, Jr.,** general manager, Ismert-Hincke Milling Co., Kansas City, Mo; **S. S. Adair,** comptroller, Commander-Larabee Milling Co., Minneapolis; **R. B. Laing,** vice president, Abilene (Kansas) Flour Mills Co; **Philip H. Postel,** president, Ph. H. Postel Milling Co., Mascoutah, Ill., and **Robert V. Harris,** vice president, Harris Milling Co., Mount Pleasant, Mich.

●

James Jewell of L. R. Jewell & Son, flour brokers, Kansas City, and **Mrs. Jewell** recently returned from a motor trip to Mexico. The homeward journey was made through the recent Texas floods that almost marooned the travelers for a short while.

●

Edwin A. Larson, manager of the bakery special flour department, Pillsbury Mills, Inc., Minneapolis, recently stopped in at the company's New York offices for a social visit, accompanied by Mrs. Larson, their daughter, and son, who is just finishing his third year at Annapolis.

●

Elmer Huffman, divisional sales manager for the Kansas Milling Co., Wichita, is in Crete, Neb., attending commencement exercises at Doane College. He is a graduate of that school.

●

Dr. Paul A. Smith, bacteriologist of the Borden Co., New York, N. Y., has been commended by **Maj. Gen. A. H. Watt,** chief of the Army Chemical Warfare Service, for his wartime contribution to research in bacteriological warfare, while on leave from his company. Dr. Smith did experimental work for three years in the service in this country and in England. He has now returned to his civilian post.

●

Alfred Olson, millwright in the plant of King Midas Flour Mills at Superior, Wis., has retired after 20 years of service there.

●

W. O. Brackett of the Brackett Grain Co., Fort Worth, Texas, was in Kansas City recently on his way to Chicago to bid goodbye to his daughter and her family, who were starting for a trip to Scotland.

●

J. H. Blake, New York flour broker, and **Maurice Gartner,** who is associated with him, left by airplane June 9 for a swing through the wheat belt to visit mill connections. They plan to return June 16.

●

C. A. Ogden, veteran flour salesman of Jackson, Mich., who has been "vacationing" since last autumn, is heading back home again, but does not expect to be there much before July

Happiness X 4

☆ **Three Generations of Baums Celebrate, and for Four Very Good Reasons**

Many voices sang "Happy Birthday" at the home of Glenn Baum, sales representative of the Percy Kent Bag Co., at Oklahoma City, June 10. It was a quadruple celebration for the Baums, with grandfather and grandmother on hand. Grandfather is P. H. Baum, vice president and director of sales for the William Kelly Milling Co., Hutchinson. He and Mrs. Baum were celebrating their wedding anniversary, Mr. Baum's birthday and the birthday of their oldest grandson, all being June 10, and the baby grandson was given a party, too, since his birthday comes a few days later.

15. With Mrs. Ogden, he started out by automobile for Texas, and has visited in Mexico, California, Oregon and Washington. He is making the trip by easy stages and enjoying the scenery en route.

●

R. S. McIlvaine, head of the Rainbo Bread Co., Denver, Colo., and president of the Denver Chamber of Commerce, was in Kansas City recently on his way to Rockford, Ill.

●

The continued illness of **S. F. Poindexter,** secretary of the Piedmont Millers Association, kept him from attending its annual convention for the first time in 20 years, but did not prevent association members from expressing their wishes for his speedy recovery by sending him flowers.

●

Win P. Craig, Atlanta, manager of the new southern office of the Colorado Milling & Elevator Co., Denver, Colo., left recently by airplane for Chicago, where he will visit his mother. From Chicago Mr. Craig will go to Denver to visit the mill offices. He was accompanied on the trip by his daughter, Sara Virginia Craig.

●

J. R. Marts of the Farmers Co-operative Commission Co., Hutchinson, Kansas., recently entertained guests at his country lodge to honor **James Douglas,** Hutchinson manager for the Salina (Kansas) Terminal Elevator Co., who recently succeeded **Leroy Livingston,** who resigned to become a Texas rancher. **B. K. Smoot** of Salina, president of the Salina firm, was a guest.

●

Mrs. Van Irwin, wife of **Van Irwin,** sales manager for the Cherokee Mills, Nashville, Tenn., is recovering satisfactorily from a recent major operation.

●

J. S. Hargett, Oklahoma City, president of the southwestern division of General Mills, Inc., and **B. D. Eddie,** vice president and general manager of the Superior Feed Mills, Oklahoma City, were members of a group of Oklahoma City business men headed by **Gov. Robert S. Kerr,** who made a two-day tour of the Lake Texoma and Washita Valley area of Oklahoma. Mr. Hargett is president of the Oklahoma City Chamber of Commerce.

●

Roy Bender, secretary of the Oklahoma Co-operative Grain Dealers Association, and **E. N. Puckett,** both of Enid, manager of the Union Equity Exchange, were among grain men who recently conferred with **Fiorello La Guardia** in Oklahoma City.

●

L. B. Colfix of Oklahoma City, comptroller for General Mills, Inc., southwestern division, was recently elected vice president of the National Office Management Association of Oklahoma City.

●

Dr. Franklin C. Bing of the American Institute of Baking, Chicago, was the guest of honor at a recent dinner at the Denver Athletic Club, given by the board of directors of the Rocky Mountain Bakers Association. **Harold U. Carpenter** of the American Lady Bakery, president of the association, presided at the meeting following the dinner. **R. S. McIlvaine** of the Rainbo Bread Co., Denver, and newly elected president of the Denver Chamber of Commerce, in a short talk decried recent unfavorable publicity given in the daily press in regard to consignment selling.

●

Frank V. Miller, son of **Frank C. Miller,** secretary of the Pittsburgh Flour Club, visited Northern University, Ada, Ohio, with his father recently to arrange for September entrance in engineering classes.

——BREAD IS THE STAFF OF LIFE——

Recipe for Successful Get-to-Gether:

VALIER & SPIES "V" CLUB ADDS BALL GAME TO WHEAT SITUATION, BLENDING WELL

St. Louis, Mo.—The annual meeting of the "V" Club, composed of sales representatives of the Valier & Spies Milling Co., took place at the company plant in St. Louis, June 6-7. Sales representatives attended two business sessions and participated in a program of entertainment which included attendance at the St. Louis-Boston National League baseball game.

Speakers on the program included E. P. Mitchell, president of the parent organization, Flour Mills of America, Inc., and T. A. O'Sullivan, vice president and head of the Kansas City Board of Trade, who gave a summary of the world wheat picture.

Technical aspects of flour production and baking problems were described by three speakers: George S. O. Smith, who is president of the Association of Operative Millers; John W. Merrell, of the company's bakery service department, and W. W. VanScoyk. Other speakers were B. V. Hopper, N. M. Thompson, J. H. Fowler and George C. Giessing who talked on sales, credits and merchandising topics.

The club was welcomed by L. C. Chase, vice president and manager of the Valier & Spies Milling Company, and C. A. Barrows, assistant manager and sales director, presided at the sessions.

DEATHS

Clement Leath Speiden, 52, vice president of Innis, Speiden & Co., chemical manufacturers, and past president of the New York Junior Board of Trade, died at Charlottesville, Va., June 2. Mr. Speiden, who was a veteran of both recent wars, had retired from active participation in the company in 1937, retaining his directorship.

Edward P. Kehoe, 58, head of Edward P. Kehoe & Son, grain merchants, Minneapolis, died June 8. He had not been in the best of health for the past year, but was able to attend to his business up until about a week ago. A son and daughter survive him.

Frank J. Thull, 67, a millwright for Pillsbury Mills, Inc., at Minneapolis for 37 years, who retired June 1, drowned while on a fishing trip June 6. His widow and a son survive him.

L. C. Wagner, 80, a founder and the president of the Statesville (N. C.) Flour Mills Co., died recently.

THREE GENERATIONS—Three generations of the Urban milling family attended the dinner in celebration of the completion of 100 years' operation by the George Urban Milling Co. Shown above, left to right, are George P. Urban, Jr., vice president; George P. Urban, president, and Henry Z. Urban, treasurer. Standing on the chair is George P. Urban III, son of George P. Urban, Jr.

Centennial Celebration

* * * * * * *

George Urban Milling Co. Feted at Dinner

Buffalo, N. Y.—With more than 500 officers, employees and baker and trade friends of the George Urban Milling Co. looking on, the company began its second hundred years of milling June 3, when George P. Urban III, fifth in line from the founder of the company, cut a huge "centennial cake" at a banquet in the main ballroom of the Hotel Statler. His grandfather, George P. Urban, assisted the young gentleman so that everyone was able to partake and cheer the family which has been able to steer a clear course through the wars, booms and depressions of a century, and also to render such signal public service to the city of Buffalo.

Speaking for the city, President of Council Kneeland B. Wilkes paid this tribute:

"I can say we are proud of the whole Urban family. The history of the company parallels the history of this city, and as official representative of the city, I want to say to you as individuals, as a family and as an institution that all of Buffalo wishes you the happiest returns of the day."

Wishes for "another 100 years of achievement" were voiced by Lawrence H. Miller, president of the New York State Association of Manufacturing Retail Bakers which was holding its annual convention in the city on the same day.

W. Robert Fitzgerald, sales representative of the company, summarized the reasons for the remarkable life of the company by saying, "fair dealing, fair competition and loyalty to customers and the mill are the record of the George Urban Milling Company and its employees."

All of the members of the Urban family were present at the Centennial, including Mr. and Mrs. George P. Urban, Mr. and Mrs. George P. Urban II, and their small son, George P. Urban III; Mrs. Charles W. Banta and Miss Jeanette Urban, sisters of Mr. Urban; and Henry Zeller Urban.

While the banquet hall rang with tributes to the accomplishments of the company, the company itself modestly told its story in a brochure.

The founder of the company pioneered in milling. He was the first to use steel corrugated rollers, instead of buhr stones, to grind wheat. The city of Buffalo owes a large part of its beautiful park system to his foresight. He was one of Buffalo's first park commissioners.

His son, George Urban, Jr., was a distinguished industrialist and a pioneer in the development of electric light and power. He was a close friend of Thomas A. Edison and Lord Kelvin. The new Urban mill, built in 1903, was equipped with the first incandescent light machine brought to Buffalo. The machine had been built by Edison.

The grandson of the founder and present head of the company, George P. Urban, was graduated from Yale in 1901. He has taken a prominent part in association work, being a member of the Millers National Federation, New York State Millers Association, a director in a milling insurance company as well as in several power companies, and a leader in the business and industrial life of the city.

The newest Urbans to enter the business are both graduates of Yale and both served as officers in World War II, George P. Urban, Jr., as a major in the army, and Henry Z. Urban as a lieutenant in the navy.

President Urban, who acted as toastmaster, received a bouquet of 100 roses from his employees.

——BREAD IS THE STAFF OF LIFE——

CLEVELAND FLOUR CLUB FETES WILLIAM PITMAN

Cleveland, Ohio.—Members of the Cleveland Flour Club held a special meeting May 24 to congratulate its member, William Pitman, Star Elevator Co., on his election to the presidency of the National Association of Flour Distributors at the recent Chicago convention.

CHICAGO BOARD OF TRADE'S TROUBLES NOT YET ENDED

Difficulties May Be Compounded If Price Control Ends June 30—Brokers Carrying Short Accounts Penalized

By JOHN CIPPERLY
Washington Correspondent of
The Northwestern Miller

Washington, D. C.—The possibility that price control may end on June 30 is seen as compounding the troubles of the Chicago Board of Trade, which recently found it necessary to reverse its stand on open futures contracts to protect itself and the directorate against penalties which might have been inflicted under a lawsuit brought by Cargill, Inc., under the Sherman anti-trust law.

If price control were to end on June 30 of this year, or if it is necessary to increase grain prices, the Chicago board, if it follows its most recent precedent, will permit futures contracts to rise to the amount of a permitted increase or to the amount which a free market might reflect following the abandonment of price control.

As things now stand, brokers carrying short accounts on grains are denied the opportunity to liquidate these accounts when grains are at ceilings. Under these circumstances, unless a short account is margined at 100%, there is the danger that a short might default, and the broker is unable to sell him out to cover the transaction. In this connection it has been learned from brokerage sources here that a number of houses have already put commodity margins at the 100% level.

A 100% margin requirement in the commodity exchange field is seen as more restrictive to exchange activity than a similar requirement on stock exchanges. However, it has been intimated that, following the Cargill suit, some member firms of the Chicago Board of Trade have been unable to effect settlements with shorts and appear to be stuck with the penalty which has accrued since the Chicago board reversed its earlier stand on open futures.

The revelation that some brokerage houses have been compelled to assume the obligation of shorts provokes the question in minds of certain observers that the board of trade might find it preferable to limit trading in futures to liquidation and halt the opening of new trading. This radical action, however, would virtually bring this normally active market to an almost dead stop.

Although the reversal of the Chicago Board of Trade ruling regarding open futures is applauded as the only proper move by that body, the reversal is expected to create some further legal involvements. For example, shorts who were protected under the original ruling are not encouraged to make a settlement under the reversed rule. Next, it feared that accounts which were adversely affected by the reopening of futures may find reason to bring suit against the exchange because of damages sustained between the period of time elapsing between the two contradictory rulings of the board.

Another factor which may multiply the board's troubles is the recent runup in oats prices, where it is suspected that a sizeable short interest has developed. If price control ends on June 30 and the oats market followed a general price advance in the major grains, pressure on the shorts would be intensified, although in a free market brokers would have the opportunity to liquidate accounts.

A still substantial open short corn interest is reported on the Chicago market and it is in this commodity that the greatest price boost would be expected if price control stops on June 30. Grain trade opinion concerning price action following the decontrol of commodity prices differs widely. Competent trade sources are roughly in accord that wheat would not advance more than $1 bu over a 90-day period, while others predict that $2.75 wheat would be the top of the movement—a price which could not be maintained over a long period.

This opinion is supported by reference to the indicated size of the crop and the historical reluctance of business men processors to make other than necessary commitments in a rapidly rising market. These opinions are made, admittedly, without full information concerning the quantity of wheat which the government may export from the 1946-47 crop year.

In corn, the greatest inflationary danger would be expected although the trade admits that rising feed prices will be resisted by feeders and poultrymen and this hesitancy to buy manufactured feed at substantially higher prices would put a brake on a corn price run-up.

Good crops of the minor grains probably will have a tendency to check advances in corn and wheat and might even hold price gains in these commodities to much lower levels than is predicted. Some grain trade officials believe that in a free market under present demand conditions the price of corn could possibly pass wheat.

All of these factors lead trade observers to believe that the Chicago market is still vulnerable to difficulties which may arise with the ending of price control or another grain price increase. In this latter connection, it is necessary to observe that there is no disposition anywhere in government circles to make any further price move in the grains now.

If the predicted vulnerability of the Chicago market to an ending of price control on June 30 does exist the best possible course for that market might be to ask the government to put a set-aside order in effect on all the grains where major open interests exist, thereby providing adequate legal ground for the closing out of trades, because the government has through its war powers effectively prevented the fulfillment of contracts. Such a situation occurred when WFO 144 was issued, which made wheat available as excess wheat and undeliverable on exchange contracts.

Admittedly, such a request would be drastic and virtually would end the grain markets, but the alternative would be that exchanges would face involvements as markets sought to find price levels under a free economy.

—BREAD IS THE STAFF OF LIFE—

STRIKE AGAINST STRIKES BY N. D. FARMERS

Rugby, N. D. — Two hundred food producers here, organized as the Pierce County Farmers Food Embargo Association, have pledged to withhold their produce from the market until major labor difficulties of this country are settled. According to Oscar Blessum, chairman, the group intends to "strike against strikes" until such time as sufficient machinery is available for the farmer to do his job in feeding the world. Mr. Blessum visions the formation of similar groups throughout his state and later in the entire winter wheat belt.

K. C. EXCHANGE RULING ON FUTURES IS CHANGED

Kansas City, Mo.—Reversing a previous stand, following similar action by the Chicago exchange, Kansas City Board of Trade directors, June 5, removed maximum prices set on futures contracts by the board and permitted old-style futures contracts to advance to the limit of the present grain ceiling prices set by the Office of Price Administration. At the same time, the directors authorized trading in futures only for the purposes of liquidation of outstanding contracts.

The board's action in withdrawing all maximum prices fixed by directors will, in the case of any further OPA ceiling rise, make such increase automatic in futures maximums.

—BREAD IS THE STAFF OF LIFE—

Southwestern Crop Quality Reports Planned by Chemists

Kansas City, Mo.—A crop reporting committee made up of members of the Pioneer and Kansas City sections of the American Association of Cereal Chemists will gather data on the new crop wheat in the Southwest from individual chemists and abstract these reports into an official committee report.

It is expected that the first report will be issued by the committee during the third week in June.

This method of reporting the quality of the new crop was originated during the 1945 season in order to provide a more comprehensive quality picture of the new crop, instead of a variety of reports reflecting only the results of single individual's findings on the particular sample studied.

The committee's work last year proved very satisfactory and the conclusions reached from the comprehensive abstract of a number of different laboratory reports were borne out fully as the crop movement progressed.

—BREAD IS THE STAFF OF LIFE—

BAKERS CLUB HOLD PARTY

New York, N. Y.—Nearly 100 members of the Bakers Club attended its third annual cocktail party in the club's headquarters, Shelton Hotel, New York, the evening of June 4. Arrangements for the party were made by the entertainment committee, of which Charles P. Oliver is chairman.

Warm, Dry Weather Boosts Estimates of S. W. Wheat Crop

Kansas City, Mo.—Warm, dry weather over most of the Southwest, following recent heavy rains, has created considerable optimism concerning new crop yields, and most observers feel that the favorable turn in weather has added many million bushels to the hard winter wheat crop.

Early harvest returns in Oklahoma and Texas seem to be substantiating higher estimates for those states, with the grain trade now forecasting around 45,000,000 bus for Texas and 75,000,000 or a little more for Oklahoma.

Western Kansas last week had several days of high temperatures, some over 100 degrees which coming after heavy rains and some cool cloudy days, is believed to have fostered good berry development. How much wheat was lost by the May 11 freeze and Hessian fly damage remains uncertain, but it is expected that the previous crop estimates of 170,000,000 bus for Kansas may be surpassed by a margin of 10,000,000 bus or more. Further rains in east and east central portions of the state would be helpful now.

Size of yields may have considerable effect on the rate at which farmers will sell new crop wheat, a question which is now the big puzzler in the grain trade. There have been many reports from the wheat belt that growers are so disgusted with the Office of Price Administration price and bonus record of the past year that they will not sell freely without some kind of government guarantee to cover any post-harvest price increases that take place. Farmer dissatisfaction also is indicated with the War Food Order 144 requirement that they must sell half of all the wheat delivered to country elevators, with many threatening to store it in chicken-coops and pile it on the ground before accepting the government edict.

How much of this talk will be translated into action can hardly be forecast at this early date. Oklahoma and Texas movement is just getting started in important volume. An Oklahoma sample showed about 20% of the wheat deliveries being sold, but this is not conclusive during harvest movement. Farmers have about 15 days in which to make up their minds about selling wheat delivered to the country station. The status of wheat which a farmer delivers to a country elevator and later refuses to sell is a puzzler for which no one has the answer at the moment.

In any event there is real ground for worry about the availability of wheat to millers, even during the crop movement, with CCC taking half of everything the farmer sells. If growers part with half the expected Kansas crop by Oct. 1, it would provide only 45,000,000 bus of wheat for commercial use after CCC gets its set-aside. With mills in Kansas and Kansas City alone requiring around 12,000,000 bus monthly, only a few million bushels would be left for outside millers, for accumulation for later months, or for feed.

Movement of wheat to Oklahoma mills reached substantial proportions early this week and some plants were

resuming operations on a scale as nearly normal as WFO 144 will permit. If favorable weather continues most Oklahoma mills will soon be running.

Some Oklahoma and Texas wheat was reaching Kansas markets but not enough to insure much of a run for any mill as yet. It probably will be late June before Kansas mills can count on enough new crop wheat to allow steady mill operation, although harvest may be under way in southern counties by June 15.

Truck competition and the scarcity of feed is making additional trouble for elevator operators. Trucks, some of them apparently buying for mills, are actively competing with the country station for the farmers' grain in many places, with instances reported of purchases of wet wheat without appropriate moisture discounts and with not too great attention paid to other grade factors. OPA authorities were reported to be making an effort to check such movement, which evades the WFO 144 set-aside as well as the price ceiling discounts, following appeals from millers and grain men.

It is evident already that the extreme feed shortage will have a considerable effect on marketing of 1946 wheat. From some of the feed shortage areas reports crop up of sales of wheat at seed prices, some 45c or so above ordinary wheat ceilings, under circumstances that indicate the grain is destined for farm feed. Country millers in areas where livestock and poultry raising is mixed with wheat say numerous farmers drift into the mill now to inquire if they can have their new wheat ground for feed when the crop is harvested.

Wheat Shipments from Duluth Port Down from Peak

Duluth, Minn. — The peak of the current wheat movement at this port has passed and receipts from producing areas last week were approximately one half the volume of the high week.

Grain men here believe that the movement of wheat into Duluth will continue on a smaller scale, since the government apparently has sufficient supplies in storage position to meet export demands.

Elevators in the Duluth-Superior area continued to receive and load wheat, averaging more than 1,000,000 bus daily, into boats for shipment east. A steady stream of boats reported for cargoes and some elevator crews worked overtime to load out the tonnage contracted for.

For the week ended June 8 elevators reported wheat shipments of 6,620,910 bus by boat and rail, compared with 6,525,955 bus the previous week. Some late shipments will be included in next week's totals. The movement reflects the rush and improvement in the car situation to meet Commodity Credit Corp. requirements to channel wheat into shipping routes readily available for transporting to foreign countries.

Receipts included 8,076,720 bus of wheat and 200,640 bus of coarse grain and flaxseed, all shipped by rail.

Plans Made to Furnish Feed to Deficit Areas from Midwest

Washington, D. C.—A plan, largely voluntary, but aided by the state and county committees of the Production and Marketing Administration, to ship feed grains to the deficit areas of the Northeast and the Pacific Northwest from the Middle West, has been announced by the U. S. Department of Agriculture.

The plans call for the shipment of 30% of the available feed to the Pacific Northwest, and 70% to New England.

Farmers and country elevator operators in Illinois, Indiana, Iowa, Minnesota, Nebraska and South Dakota, it is said, will be asked to co-operate in the program. They will assemble carload lots of corn, oats and barley for shipment into areas where feed is urgently needed to prevent the liquidation of foundation livestock.

Chairmen of PMA committees in the six supplying states have been instructed to call meetings of state feed advisory committees and any additional elevator representatives who may be interested in the program. County PMA committees also will assist by explaining the needs to farmers who may have feed that can be spared. The USDA has set up machinery to facilitate operations, but the amount of feed made available will depend upon the extent of voluntary co-operation by the farm and industry groups, it was said.

The proposed procedure is that after an elevator operator has assembled a carload or carloads of grain, he will immediately notify the chairman of the PMA committee in his state as to the amounts and kinds of grain available for shipment.

For grain originating in South Dakota and Nebraska, the chairmen of the PMA committees in these states then will wire Chester P. Downen, state director, PMA, at Spokane, Wash., the names of shippers and the location and kinds of grain available. Mr. Downen will then supply shipping instructions containing the names and addresses of consignees in this area, and the names of banks on which sight draft bills of lading are to be forwarded. Consignees will be selected on the basis of greatest need as recommended by feed advisory committees in the Northwest. The grain will be handled through normal trade channels.

Grain originating in Iowa, Minnesota, Illinois and Indiana will be similarly handled for the Northeast through local chairmen of PMA committees in these states and J. Ralph Graham, state director, PMA at Durham, N. H.

When emergencies arise in other areas the state PMA directors have been instructed to confer with their feed advisory committees, and to report their findings and recommendations to their appropriate regional directors, so that efforts may be made to supply minimum needs.

In addition to the voluntary program, feed by-products from government corn now being processed into food for export will be directed through these same channels to feed deficit areas in the Northeast and Northwest. The total of these by-products is expected to exceed 3,000,000 bus, grain equivalent, the government agency said.

——BREAD IS THE STAFF OF LIFE——

ACUTE KANSAS FARM LABOR SITUATION REPORTED

Kansas City, Mo. — Bert C. Culp, chairman of the Kansas Farm Labor Commission, predicts that the harvest labor situation in Kansas will be as acute as in 1945. To harvest the crop, 60,000 workers will be needed, including 15,000 from out of state, and the patriotic urge, it is feared, will not be as great this year.

In a report issued last week, Mr. Culp reported that there is only about half the supply of machinery repairs on hand as compared with last year. He estimates Kansas has approximately 60,000 combines, but will need 4,000 more.

PNEUMATIC SCALE CORP. NAMES WESTERN AGENT

North Quincy, Mass. — The Pneumatic Scale Corp., Ltd., of this city, announces the appointment of the Fred Todt Company of Los Angeles, as representative for its full line of packaging and bottling equipment, in Arizona, California, Idaho, Nevada, Oregon, Utah, Washington and the Canadian provinces of Alberta and British Columbia.

Mr. Todt has been actively engaged in the industry for more than 25 years as technical advisor and sales engineer. His company has worked with Pneumatic since 1933, handling its bottling equipment, and packaging was handled by Charles A. Twombly. Mr. Twombly will continue in the capacity of technical advisor in packaging and he will be assisted by Edward J. Bostwick, installation engineer, at the San Francisco office.

Associated with Mr. Todt as sales representatives will be Bruce B. Wallace and George E. Libby, both of whom have had technical training in meeting production problems.

——BREAD IS THE STAFF OF LIFE——

GEORGE A. HORMEL DEAD; ONCE A FLOUR MILLER

Minneapolis, Minn. — George A. Hormel, founder of the nationally known meat packing firm at Austin, Minn., which bears his name, died at his home in Los Angeles, June 5, in his 85th year.

Mr. Hormel at one time was engaged in flour milling. In 1921, he bought the 400-bbl mill at Austin, for its water rights, so that he could cut the ice at the dam for the packing plant. He overhauled the mill and formed the Hormel Milling Co., with C. J. Marboe as manager. Mr. Marboe was succeeded by Edward Selby. The mill continued in business three or four years, and later was converted into a chick hatchery.

When he started the mill, Mr. Hormel had the idea that his pork salesmen could dispose of its entire output. When told that this thought was visionary and impossible of success, he replied that the mill was a mere peanut stand, as compared with the packing house, and that some day he would build a real mill, as big as any in Minneapolis.

Mr. Hormel was warned that if he depended only upon his packing house salesmen to keep the mill running, he would probably find out that it would prove to be the most expensive peanut stand he ever owned. Anyway, the original mil did not prove to be a successful venture, and the big one was never built.

April Wheat Flour Output Drops 7%, Census Report Says

Washington, D. C.—The Bureau of the Census has estimated that 19,500,000 sacks of wheat flour were produced in April, a decrease of 7% from the total 20,900,000 sacks reported for March. The estimate is based on reports from 910 mills, whose production normally accounts for 95% of the United States total.

Much of the drop was seasonal, although a number of mills volunteered information which indicates that difficulties in obtaining wheat and in converting to the higher flour extraction rate now in effect persisted through April. Of the 910 mills which have already reported, 101 were idle. Only 87 of these mills were idle in March.

Even though April production declined, it is interesting to note that the estimated April production of 19,500,000 sacks exceeds by 24% the average of 15,700,000 sacks for the same month during 1935-1939.

Production of wheat flour during the first 10 months (July through April) of the current crop year totaled 210,000,000 sacks, as compared with 185,000,000 for the corresponding period in 1944-1945, an increase of 14%. Similarly, the quantity of wheat ground increased from 429,000,000 to 486,000,000 bus.

——BREAD IS THE STAFF OF LIFE——

NETHERLANDS MILLS SEND SURPLUS FEED TO ENGLAND

Minneapolis, Minn.—F. C. Osieck, Osieck & Co., Amsterdam, Holland, who is in this country endeavoring to bring about an increased allocation of United States flour for the Netherlands, confirms reports previously heard here that Holland's mills have been working so heavily on imported wheat as to produce a surplus of millfeed. Part of this surplus, he says, has been exported to England, thus in effect constituting an indirect export of millfeed from this country. Holland's need for millfeeds has been lowered by reduction of flocks and herds incident to the German occupation.

——BREAD IS THE STAFF OF LIFE——

CONSTRUCTION STARTED ON NEW OHIO ELEVATOR

Toledo, Ohio.—Construction has started on the foundations of the new 500,000-bu elevator being built here by Harold Anderson with McDonald Engineering Co. as engineers. Mr. Anderson was formerly with the National Milling Co., Toledo, and Anderson Elevators, Maumee, Ohio, now operated as Cargill Elevators.

The elevator, which is expected to be able to handle 100 trucks an hour with nine dumps, is not expected to be completed in time for the early new crop movement. It will be operated by Mr. Anderson's sons.

——BREAD IS THE STAFF OF LIFE——

JOINS EAGLE ROLLER MILL CO.

Minneapolis, Minn.—Effective July 1, E. S. Murray, a Minneapolis broker, will become the representative of the Eagle Roller Mill Co. in the Minneapolis-St. Paul area, succeeding D. N. Beecher, who is moving to New Ulm, where he will supervise sales in Minnesota, Iowa and Wisconsin.

MARKETS IN DETAIL

U. S. FLOUR MARKETS

THE SOUTHWEST

Kansas City: Except for an intensified search for flour by all varieties of buyers and some loosening of sales tightness in Oklahoma and Texas, where millers are receiving some new crop wheat, there is no change in the flour market picture. Most millers still cannot book any flour, although a few probably will be getting some wheat on loan from the Commodity Credit Corp. early this week.

Sales of southwestern mills last week averaged around 14% of capacity, the same as in the previous week. The range was greater, however, with mills in southern areas selling up to around 60%. A year ago, sales averaged 72%.

Bookings mostly were for June shipment. With the present subsidy continuation in doubt, millers cannot afford to risk forward sales. Even with protective clauses in contracts, there would be so much room for uncertainty, should price ceilings be removed, that trouble would occur inevitably. A few export licenses have been granted to fill old export orders, but volume is small.

There has been no lessening in the number of avid seekers for flour, and in more cases now bakers are on the verge of running out of supplies. Some mills in earlier wheat harvest sections have received wires from Production and Marketing Administration asking for help for certain bakers who will be completely out of flour by the end of this week. Announcement of the wheat loan program to mills brought a flood of inquiries from buyers in every section of the country, many of whom apparently misunderstood the true character of the CCC plan. Most of them did not know of the many strings attached to the government offer and apparently thought, or hoped, that wheat could be obtained freely.

It now seems probable that the flour shortage has reached its lowest point, as far as sales and operations are concerned, although the effect on bakers and consumers probably has not yet been fully felt. Mill operations are expanding in Oklahoma and Texas as the new crop volume grows, and a minor amount of relief will be forthcoming shortly from the loan of CCC wheat. However, flour will still be scarce for many weeks and, depending on the rate of farm wheat marketings and government juggling of wheat policies, probably will be inadequate for consumer needs throughout the entire crop year.

This unhappy condition probably will lead to some unusual developments in the flour market as the year goes on. A few instances already have popped up of flour buyers who say they will have wheat to trade for flour. Such offers, however, could only be attractive when millers could not buy wheat themselves and hold little enticement now on the verge of the new crop movement, with the additional restriction on mill operations for domestic use now in effect.

Prices are purely nominal at present OPA ceiling maximums. Quotations June 8: family flour $4.12@4.40, bakery straight grade $3.31, high gluten $3.51; soft winter standard grade $3.35, all 80% extraction.

Twelve mills report domestic business active, 4 fair, none quiet, none slow, 2 dull.

Oklahoma City: Sales improved and ranged from 10 to 150% and averaged 55%, compared with practically nothing the previous week and 89% a year ago. The family trade took 51% of bookings and the bakers 49%. Operations ranged from 50 to 85% and averaged 60%, compared with 23% a week ago and 87% a year ago. Mills expect to resume operation June 20 on a fairly normal basis. Prices closed unchanged. Quotations, delivered rate points in trucks, June 8: family 80% extra emergency $4.30@4.66; bakery, carlots $3.32, unenriched; in trucks $3.65.

Omaha: Flour production was revived here last week by all millers but the production-period was destined to be short lived. Wheat scarcities are at their worst level. Officials predict another complete shut down within a few days. Mills reported that the Commodity Credit Corp. has not delivered any wheat to them to complete government orders. The small amount on hand was saved. Sales, although at a minimum, are being made to domestic bakery trade which have orders on the books. Mills are making their best attempt to partially fill domestic orders for June.

No Texas wheat has reached the Omaha market. A possibility of receiving some Oklahoma wheat is in view, millers say, if the black market does not consume the entire amount before it reaches Nebraska. Some of the new wheat crop is expected in this area around June 15.

Prices remain at ceilings. Bakery straight grade was $3.15.

Wichita: One Wichita mill resumed production for a six-day period. All other mills are shut down and none now expects to get back into production much earlier than July 1.

Hutchinson: Lacking wheat and with prospects for same on the nebulous side, mills continue to refuse bookings for either June or July delivery. Inquiry is urgent and broad. Uncertainty of the fate of subsidies makes it impossible to book for after June 30, even if supplies were certain. Offers are accepted only on the basis of ability to get wheat and on the price current at time of delivery. The bottom of the bin has been reached, or will be shortly, in almost every mill.

Salina: The demand for flour is urgent but there are virtually no sales. Shipping directions are tremendously heavy.

Texas: New crop wheat has enabled Texas mills to increase running time to around 75% of capacity. Demand for flour continues urgent but mills are not booking beyond nearby shipment and some are reported as already completely booked for June shipment. Sales were about equally divided between family and bakers flour and probably averaged 60 to 65% of capacity. Licenses have been granted to fill a few old export bookings. Quotations June 8, 100's: family flour $4.30@4.43, standard bakers $3.54, all 80% extraction, delivered TCP.

THE NORTHWEST

Minneapolis: The recorded flour sales by spring wheat mills last week are rather misleading. New bookings equalled about 85% of the capacity of mills, compared with 27% a week earlier, and 165% a year ago. But most of this business was for government account for export, with the government obligating itself to supply the wheat.

Sales to regular domestic trade, however, are vastly different. Very few mills have any flour at all to sell, and even some of the largest companies are getting down to where they are faced with a complete shut down for lack of wheat. On one day last week, total domestic sales for all amounted to less than 10,000 bags, whereas the government got 10 times that quantity the same day.

It is unfortunate, but apparently true, that some big bakers, appealing to Washington for relief, are being told that the mills can get wheat and that there is no occasion for the threatened closing of bakeries. The facts are that millers are doing everything they possibly can to get wheat, but they have been unsuccessful to date. Practically the only wheat they have received from government agencies is for relief flour, and not all of their holdings used for this account has been replaced. A little free wheat naturally has been delivered to them against old purchases made "to arrive," but the 21-day grind they had on hand, when this limitation became effective, is melting away rapidly.

Bakers are insistent that mills ship to them in June and July the percentage of flour they are entitled to, based on deliveries a year ago, but the flour cannot be made without wheat and, until the government distributes this wheat out of its accumulated export supplies, the mills are helpless.

Quotations June 10: spring standard 80% $3.34, family 80% $4.34.

Interior mills, including Duluth: Active demand for flour, but scarcity of wheat prevents mills from accepting much if any new business. Mills are not getting as much assistance from the CCC as they had been led to expect. In a few isolated instances, mills scraped together enough wheat to run a day or two and take care of local grocer and baker needs, but the rank and file have not much hope of anything like a steady run until the new crop is harvested.

THE CENTRAL WEST

Chicago: Conditions in the local market remain about the same. With most mills down their representatives are unable to sell any flour, and demand from bakers and jobbers continues heavy. All of them seem to be in need of flour and some bakers are getting so low on flour that they will be forced to close down if they are unable to get another supply. Bakers have cut their production and bread is sold out by noon in most stores. Quotations June 8: spring 80% $3.47, family flour 80% $4.11, hard winter 80% $3.47, soft winter 80% $3.41@3.51.

St. Louis: Local mills report very little change in the situation of the past few weeks, other than stocks of wheat are running low. There is no let-up in the demand for flour from all directions. Jobbers report nothing new in their position of recent date. Stocks are getting rather small with prospects of their getting further shipments being doubtful. However, the small bakeshops are still operating but on a smaller scale than usual.

Central states mills report a good demand for flour which they are unable to take care of due to the shrinking of their wheat stocks that for the time being cannot be replaced.

Quotations June 8: prices are at the ceiling.

Toledo: Bakers at Toledo are using up what small stocks of flour they have and don't know where they are going to get more, so a further general reduction in operation or sudden closing down altogether may come at any time. Jobbers' stocks of flour are exhausted and can't be replenished because the mills have no flour for sale. Much of the wheat secured by the government has already moved out of line for many mills, even if it were made available as a loan. Bakers have been laying off help inevitably; some are closing for two or three weeks for vacations, or operating only a few days a week.

Cleveland: Conditions are more acute than ever before in this territory. Jobbers are out of flour. Mills have nothing to offer and there is very little flour rolling. The average small baker has enough flour to last him until July 15. The large bakers have enough flour to operate another 10 days at approximately 60% of their regular production. There is an extreme shortage of bread. The only bright spot in the future depends on how soon the government will supply wheat to the mills to furnish flour to the distressed areas. The government has just released 40,000 bus of wheat to the local mill, which is to be ground into flour and distributed in the distressed area, which comprises northeastern Ohio. Stocks of family flour are almost exhausted. Jobbers have sold out and retail grocers have either sold their flour to the housewife or the baker. Quotations all at ceilings with no flour to offer.

EASTERN STATES

Buffalo: Flour sales are at a standstill. Mills are awaiting action on the part of the government on the subsidy scheduled to expire June 30 unless the time limit is extended by Congress. Mills are forced to curtail production schedules very drastically, with two- and three-day operations now commonplace and with indications of further reductions. Jobbers are having the greatest difficulties and some of their ingenuity in the sales field is being turned to securing wheat for the mills. In addition to other troubles, the mills now also are faced with a shortage of boxcars to load the meager production. Quotations, cottons, f.o.b. Buffalo: northwestern $3.70; southwestern $3.70; soft wheat $3.80, all 80% extraction.

New York: A confused and disrupted flour market continues. Buyers still try desperately to get supplies, every case ostensibly being a "hardship." The thin trickle of arrivals is allocated to the best of representatives' abilities but the steady dwindling of stocks promises acute shortages in many channels before long. Kansas flours have been the only ones considered even hopeful for offering on a contingent price basis, and business on them usually simmers down to wishful thinking. No Texas or Oklahoma sales are found even though this wheat is moving. Soft wheat flour sales are completely lacking. Rumors of rye flour sales at $12 cwt added another conversation piece in a market already full of them. Quotations: high glutens $3.95, standard patents $3.75, soft winters $3.77, family flours $4.31, all 80% flour, all nominal.

Philadelphia: The undertone of the flour market continues very firm. Hopes appear to be fading that there may be some relief from the critical flour shortage in the immediate future. Mills are largely unwilling to request loans of government-owned wheat in view of uncertainties regarding the life of the subsidy program and future price levels of wheat. It is pointed out that if the mills are to borrow wheat at the present value and then be forced to acquire replacements without the protection of the subsidy, losses to the miller would be huge. Moreover, past measures, such as the government bonus purchase program and the recent advance in ceiling prices, might be duplicated in the future, especially if farmers should withhold their crop wheat, as now appears probable. Millers simply cannot afford such risks, and unless adequate guarantees are forthcoming there probably will be little wheat ground for domestic consumption until the new crop starts to move. Local demand is active and far in excess of the limited offerings. Quotations June 8: spring wheat 80% $3.73; hard winter 80% $3.73; soft winter straight nearby $3.75.

Pittsburgh: Mill agents continue to be unable to accept new business and their chief interest is in trying to secure shipments on prior contracts. The amount of flour coming into the district continues very small. Each week smaller bakeries close for longer periods. The end of June is viewed by all bakers as the critical period with majority of bakeries then closed unless radical increases in the flour, sugar and shortening supplies occur. Red Cross classes are starting in this district to instruct housewives how to supply nutritious meals to their families without meat or bread being included in their menus.

It is said here by local newswriters that the bread shortage is felt much more keenly than the meat shortage.

Quotations June 8: hard winter flour $3.70, high gluten $3.90, spring wheat standard flour $3.70, high gluten $3.90, soft wheat bakery flour $3.70; Pacific coast $3.72, family flour $4.25@4.71, all 80% extraction.

THE SOUTH

New Orleans: It is impossible to keep up the refrain that each week the "situation is more desperate" or that the "New Orleans flour business is in a more critical state." Spaghetti and macaroni have joined bread on the current shortage list, as semolina flour also becomes scarce. Reports from Chicago that the Millers National Federation had announced that the Texas and Oklahoma wheat crops are running 25% over pre-harvest expectations had inconsiderable effect on the black mood felt by everyone.

Flour company spokesmen estimate reserves are generally used up. A majority of bakery shops in outlying small towns have already closed. New Orleans quotations continue at the same level.

Atlanta: Some flour is moving in on June allotments but this is far short of requirements. Largest cries are coming from bakers, many predicting that there will be at least a 25-day bread famine. Wholesale grocers serving smaller bakers clamor for flour to meet customer needs but stocks are fast dwindling and replenishments come in slowly. Blenders, of course, are caught in the same backwash, some saying they have just about reached the end of the rope on flour. Georgia wheat is moving and ordinarily little of this wheat is ground into flour, but this season there is a heavy demand for Georgia wheat from outside the state. Farmers are getting $2.15@2.25 bu. There are also reports of wheat in the black market. One mill grinding wheat into flour estimated the plant was running 80% of normal. Another reported the mill operating 16 hours a day instead of 24. However, most of the wheat being ground is for local farmers.

Quotations: Prices at ceiling and nominal.

Nashville: New sales of flour have continued light since few mills are offering flour. Most mills which serve this territory are still closed and only a few carlots of new flour were offered from Texas and Oklahoma mills for reasonably prompt shipment. No shut downs have been reported, although local blenders indicate that their stocks are very light and in all probability will be exhausted before they can receive additional flour from the mills. Blenders have asked their customers to curtail their sales as much as possible and have more or less rationed their supplies to their regular customers and have not made sales to new customers. The sale of bread is unusually good here; grocers indicate that their shelves were emptied early each day as every customer picked up a loaf of bread before buying other groceries. The sale of corn meal has continued very good and supplies of this are becoming very light. Dealers are trying to distribute their supplies among all customers and indicate that present supplies will not last more than a few more weeks. Quotations June 8: soft wheat 80% $5.10@5.20.

PACIFIC COAST

Seattle: Bakers and millers viewed the Commodity Credit Corp. announcement of the wheat loan plan with optimism. The baking trade has been operating on a 36-hour basis and granting all requested leaves of absence and vacations. Bread lines have been the usual thing for the past 10 days or two weeks. This condition has existed all over the state. No choice of varieties and blends for the baker to choose from, and he is glad to get whatever the miller will give him.

SUMMARY OF FLOUR QUOTATIONS

Week-end flour quotations, per sack (100 lbs). (Canadian quotations per bbl of 196 lbs.) All quotations on basis of carload lots, prompt delivery.

	Chicago	Mpls.	Kans. City	St. Louis	Buffalo
Spring family 80%	$...@4.11	$...@4.34	$...@...	$...@...	$...@...
Spring standard 80%	...@3.47	...@3.34	...@...	...@3.50	...@3.70
Hard winter family 80%	...@...	...@...	4.12@4.40	...@...	...@...
Hard winter high gluten 80%	...@...	...@...	...@3.51	...@...	...@...
Hard winter standard 80%	...@3.47	...@...	...@3.31	3.50@3.55	...@3.70
Soft winter high gluten 80%	...@...	...@...	...@...	...@3.80	...@...
Soft winter standard 80%	3.41@3.51	...@...	...@3.35	...@...	...@3.80
Rye flour, white	...@...	...@...	...@...	...@...	...@...
Rye flour, dark	...@...	...@...	...@...	...@...	...@...
Semolina, No. 1 (dur. gran. 80%)	...@3.70	...@3.57	...@...	3.84@3.99	...@3.73

	New York	Phila.	Boston	Cleveland	*Nashville
Spring family 80%	$...@4.31	$...@...	$...@...	$...@...	$...@...
Spring high gluten 80%	...@3.95	...@...	3.95@3.97	...@3.86	...@...
Spring standard 80%	...@3.75	...@3.73	3.75@3.77	...@3.66	...@...
Hard winter standard 80%	...@...	...@3.73	3.75@3.77	...@3.66	...@...
Soft winter standard 80%	...@3.77	...@3.75	3.75@3.77	...@3.66	5.10@5.20
Rye flour, white	...@...	7.50@7.70	...@...	...@...	...@...
Rye flour, dark	...@...	...@...	...@...	...@...	...@...
Semolina, No. 1 (dur. gran. 80%)	...@3.78	...@3.78	...@...	...@...	...@...

	Seattle	S. Francisco	Toronto	**Winnipeg
Family patent 80%.	$...@...	$...@...		
Soft winter str. 80%	...@3.65	...@...		
Spring top patent¶			$...@6.05	$...@5.30
Spring second patent¶			...@4.40	...@4.80
Spring first clear¶			...@3.30	...@...
Spring exports§			...@11.70	...@...
Ontario soft winters‡			...@5.50	...@...
Ontario exports‡			...@6.55	...@...

*Nashville prices, basis f.o.b. Ohio River points for soft winter wheat flour. **In cottons, Fort William basis. ‡Secondhand cottons. ¶98-lb cottons. §280-lb cottons.

The smaller loaf has not helped much. Market unchanged at ceiling, $3.65.

Portland: Millers met the new government bonus wheat loan plan with mixed feelings, although it is anticipated that most of them will take advantage of the opportunity to borrow wheat. However, they are not a bit enthusiastic about it, as they realize new crop wheat may be hard to buy. Saving grace is that the Pacific Northwest will have a bumper wheat crop. Some interior mills may not share in the new plan because of their disadvantageous position with respect to wheat supplies owned. But the large coast and Spokane mills will have supplies available to them.

Flour stocks are declining rapidly, with predictions freely made that about half the bakers will be out of flour by the middle of this month, and 70% out of flour entirely by July 1. Consumer reaction so far has been negligible because bread shortages have not yet been acute.

Quotations June 8, 100's cottons, f.o.b. Portland: hard wheat $3.37, high gluten $3.57, blue stem bakers $3.37, pie and pastry $3.08, fancy hard wheat clears $3.25, whole wheat 100% $3.57, graham $3.37, cracked wheat $3.37.

CANADIAN MARKETS

Toronto-Montreal: The Canadian flour trade has nothing new to report in the way of sales. Mills are fully booked up until end of July, although some small quantities may be allocated in the meantime to markets recently approved for shipments by the Canadian Wheat Board. Mills in the eastern provinces have enough wheat on hand to take care of their immediate grinding requirements. Reports of shortages of flour in the domestic market are heard as a result of the 10% reduction in domestic grindings but nothing of a serious nature has developed and there is no evidence of any scarcity of bread so far. Domestic prices are at the ceiling and the export price is based on the export value of wheat. Quotations June 8: for export, government regulation flour $11.70 per 280 lbs, f.a.s. Montreal seaboard, $11.75 Halifax, $11.80 New York, for shipment to end of July; top patents for use in Canada $5.05 bbl, seconds $4.40, bakers $4.30, in 98's cotton, mixed cars, track, Toronto-Montreal freights, 10c extra where cartage is performed.

Winter wheat flour trade is quiet. Requirements of biscuit manufacturers and pastry bakers are fully covered. It does not take large quantities for this purpose. New export business is light as the price is too high in comparison with springs to attract much demand from the West Indies, where most of the surplus of this flour now finds an outlet. In any event there is little of this flour available as stocks of winter wheat are diminishing. The price is unchanged and is based on the ceiling for wheat, plus storage charges. Quotations June 8: standard grades of soft winters $5.50 bbl, secondhand cottons, Montreal freight basis; for export $6.55 bbl, cotton bags, Canadian seaboard, plus equalization fee of $2.

Although some winter wheat is being delivered the quantities are limited. In some areas none at all is coming out from farms. The growing crop is now in excellent condition but the acreage is small as compared with previous years. Prices are at ceiling levels. Quotations June 8: best grades $1.26 bu, Montreal freights, which is equivalent to $1.12@1.14 bu, f.o.b. shipping points in Ontario.

Winnipeg: Domestic trade in Canadian flour continues on a good scale, and mills are operating to capacity on domestic and export orders. The export orders, however, have been on hand for some time and the only new business reported for shipment abroad during the past week was quite small, and made up of minor amounts for the West Indies, South Africa and a few destinations in Africa. Quotations June 8: top patent springs for delivery between Fort William and the British Columbia boundary $5.30, cottons; second patents $4.80, second patents to bakers $4.60.

Vancouver: Hong Kong, the last remaining Pacific outlet for Canadian flour exports on a purely commercial basis, has been put on the list of countries to which no shipments can be made with the result that export trade through here has been shut off leaving only government contracts and UNRRA clearances. The Hong Kong outlet was an important one for Canadian shippers and buyers there were prepared to take anything and everything offered. Credits had been arranged and steamship space was available. This market was second to Manila, also recently banned by the Canadian Wheat Board. All shipments now are being arranged through the Department of Trade and Commerce at Ottawa and western mills, still working to capacity, are filling European requirements with little attention to the needs of the Orient.

In the domestic hard wheat flour field, dealers are holding strictly to the new Canadian quotas but these are not sufficient to take care of the demand, largely due to the increase in population on the coast, a factor which has no bearing on the allotments made to this area by the Wheat Board. Hard wheat flour demand here has also been curtailed to a considerable extent by the lack of shortening and sugar which has cut down baking operations to a large extent. Prices are unchanged at ceiling levels. Cash car quotations for 98's cottons as of June 8: first patents $5.40, bakers patents $5, vitamin B $4.90. Cake and pastry flour from Ontario mills is available in limited supply with the price to the trade firm at $7.50.

MILLFEED MARKETS

Minneapolis: Production is down to about one third of normal, so the scarcity is more pronounced than ever. City mills have nothing to offer, and are apportioning their reduced output among old customers who have pending contracts. Interior mills can sell all the feed they make to neighboring farmers. Unless mills get wheat from the CCC, no increase in production can be looked for until the new crop.

Kansas City: With production at a record low level, little millfeed is coming on the market, outside of mixed cars with flour; substantial improvement in volume still is several weeks away; demands for millfeed in return for wheat have appeared in some instances, but are not attractive to millers now; carlot ceiling $46.50.

Oklahoma City: Scarcity and continued ceilings characterize the feed market. Quotations, burlaps, carlots: for southern deliveries $2.45, for northern deliveries $2.40.

Wichita: No offerings. Quotations, basis Kansas City, straight cars $46.50, mixed cars $47.50 ton.

Hutchinson: The mere trickle of millfeed is distributed as equitably as possible, but is inadequate to meet the widespread demand. Everything goes to mixed car buyers at ceiling, $47.50, Kansas City basis.

Salina: Demand is tremendous with prices steady and supplies considerably below trade. Nominal quotations: $46.50@47.50, basis Kansas City.

Fort Worth: Scattering cars are being delivered on old bookings; otherwise production is all going into mills' own mixed feeds or in mixed cars with flour. Quotations, mill run, burlaps (ceiling): $52.20, delivered TCP.

Toledo: Very little millfeed is being produced with mills closing down for want of wheat or operating at greatly reduced capacity. Ceiling prices prevail: $52.37@52.57 sacks, f.o.b. Toledo.

Cleveland: There is absolutely no millfeed to be had.

Buffalo: Demand for millfeeds continues far ahead of the curtailed supply, despite higher ceiling prices. One of the questions being debated in the trade is whether grains will be exempted from price control after June 30. Quotations: $51.55 straight carlots, f.o.b. Buffalo.

Philadelphia: Demand is active and the market rules firm, with offerings light; mill run $54.84@55.34.

Pittsburgh: A dribble of grain and oats comes into the district. Demand is very large and supply is very small. Mill run quoted nominally at $53.16@54.65 in straight cars, with mixed cars quoted $1 higher.

Atlanta: Demand urgent; supply tight; $56.20@56.70.

Seattle: Announcement this week of a CCC loan to flour millers for their domestic trade needs did not bring any reflection in the millfeed market. All mills are harder pressed than ever to take care of their regular customers on an allocation basis, and those mills with feed departments have discontinued sale of their offal to other than a very few preferred or house accounts of long standing. Nominal $46.50, no offerings.

Portland: Mill run $46.50 ton.

Ogden: Mills are operating five days per week with the government releasing a little more grain for milling. Demand continues greatly in excess of supply, and no contracts being made ahead, due to scarcity of grain. Quotations (unchanged): mill run $46.30, carload lots, f.o.b. Ogden; Denver prices: $47, ceiling; California prices: $52.08 carlots, f.o.b. San Francisco, with Los Angeles prices $1 above San Francisco.

Toronto-Montreal: None of the usual seasonal slackening of demand for millfeed is apparent. Indeed production, although at record levels, is inadequate for requirements. The ban on exports is continued indefinitely. Ceiling prices prevail. Quotations June 8: ceiling, bran $29, shorts $30, midds. $33 ton, net cash terms, bags included, mixed or straight cars, Montreal basis.

Winnipeg: Demand for millfeed continues keen and while sales in western Canada are exceedingly small, the output of western mills is moving freely to eastern Canada, where demand still exceeds supplies. Quotations: Manitoba and Saskatchewan bran $28, shorts $29; Alberta bran $25.50, shorts $26.50; small lots ex-country elevators and warehouses $3 extra.

Vancouver: Domestic demand continues very heavy, especially for this season of the year. Local houses are finding it somewhat easier to meet this demand due to increased supplies from prairie mills, now operating at full capacity and also due to the fact that one additional mill has just come into operation. Rationing of all sales is continuing here. Prices are unchanged at ceiling levels. Cash car quotations: bran $29.80, shorts $30.80, midds. $33.80.

RYE PRODUCTS

Minneapolis: The modest receipts of grain are still being applied against purchases made prior to June 1, when the ceiling took effect. No cash sales or other trades in rye grain have been reported here. Mills have no flour to offer, and are definitely out of the market until the new crop.

Philadelphia: The market for rye flour is very firm with the price situation entirely nominal. Demand is good, while offerings are exceedingly limited. White patent $7.50@7.70.

Buffalo: Millers are out of the market in rye flours. There is a heavy demand but nothing to satisfy it.

Cleveland: Mills are not offering any rye flour at this time. Jobbers' stocks are extremely low, and no doubt some bakers will be compelled to discontinue baking of rye bread before flour is again available in this market.

Chicago: Mills continue out of the market and there are no offerings or quotations.

New York: There are no rye flour offers from mills. Spot offerings are reported $10@12 cwt.

Pittsburgh: There is no change in rye flour situation; none offered and no quotations given; bakers and jobbers are patiently waiting change in market with very little rye flour on hand. Rye flour quotations on all grades nominal.

St. Louis: Prices have been withdrawn. Nothing to offer.

Portland: Pure dark rye $6.10, Wisconsin pure straight $7.70, Wisconsin white patent $8.15.

OATMEAL MARKETS

Toronto-Montreal: These mills are booked up until the end of July with export orders. No new business has come in recently. Domestic sales are light but normal for this time of year. Quotations June 8: rolled oats $3.15 bag of 80 lbs, cotton, in mixed cars; oatmeal, in 98-lb jutes $3.85 bag, f.o.b. Toronto or Montreal.

Winnipeg: Trade in rolled oats and oatmeal is seasonal. Supplies are only moderate, but sufficient to take care of the rather light demand. Quotations June 8: rolled oats in 80-lb sacks $3.25 in the three prairie provinces; oatmeal in 98-lb sacks, 20% over rolled oats.

Minneapolis: Bulk rolled oats were quoted at $5.60 per 100 lbs on June 10; 20-oz packages $2.65 case, 48-oz packages $2.89.

Western Canada Visible Grain Supply

Visible supply of grain in the western inspection division as reported by the Board of Grain Commissioners for Canada, Fort William, Ont., June 7, 1946 (000's omitted):

	Wheat	Durum	Oats	Barley
Fort William and Port Arthur	6,308	832	5,693	3,864
Vancouver-New Westminster	2,200	..	626	120
Churchill	1,878	..	..	..
Prince Rupert	..	..	..	..
Int. public and semi-public elevators	89	..	1,045	1,427
Totals	10,575	832	7,364	5,411
Year ago	71,890	1,875	16,687	5,287
Receipts during week ending June 7:				
Ft. Wm.-Pt. Ar.	1,242	34	1,052	310
Pacific seaboard	765	..	44	4
All other public and semi-public terminals, western div.	10	..	14	7
Totals	2,017	34	1,110	321
Shipments during week ending June 7:				
Ft. Wm.-Pt. Arthur—				
Lake	463	..	324	..
Rail	7	5	201	108
Pacific seaboard	665	..	25	9
All other public and semi-public terminals, western div.	9	..	43	41
Totals	1,145	5	593	157
Total receipts for the crop year Aug. 1, 1945, to June 7, 1946:				
Ft. Wm.-Pt. Ar.	178,510	3,509	58,731	38,317
Pacific seaboard	50,472	..	2,108	602
All other public and semi-public terminals, western div.	749	..	2,385	2,083
Total shipments for the crop year Aug. 1, 1945, to June 7, 1946:				
Ft. Wm.-Pt. Ar.	222,757	4,013	66,831	37,394
Pacific seaboard	64,023	..	1,891	464
All other public and semi-public terminals, western div.	11,007	..	1,348	664

United States Grain Stocks

Commercial stocks of grain in store and afloat at the principal markets of the United States at the close of the week ending June 1, 1946, and June 2, 1945, as reported to the Grain Branch of the Production and Marketing Administration of the United States Department of Agriculture in bus (000's omitted):

	American		Canadian in bond	
	June 1	June 2	June 1	June 2
	1946	1945	1946	1945
Wheat	30,517	64,818	1,571	16,142
Corn	28,780	16,132	...	...
Oats	6,578	11,181	...	2,491
Rye	461	8,089	3	285
Barley	5,938	16,982	223	1,101
Flaxseed	1,553	477	...	...
Soybeans	6,081	8,772	...	...

Stocks of United States bonded grain in store and afloat in Canadian markets June 1 (figures for corresponding date a year ago given in parentheses): wheat, none; corn, 13,000 (578,000) bus; soybeans, none.

Bonded Grain in the United States

Stocks of bonded grain in the United States as compiled by the secretary of the Chicago Board of Trade, June 1, 1946, in bus (000's omitted):

	Wheat	Oats	Rye	Bar'y
Baltimore	..	126	..	..
Buffalo	251	..	..	..
Afloat	..	..	..	..
Duluth	..	..	3	223
Milwaukee	..	..	..	..
New York	26	..	..	..
Afloat	..	..	..	..
Philadelphia	..	..	..	..
Totals	277	126	3	223
May 25, 1946	266	88	3	281
June 2, 1945	14,392	2,155	285	1,102

UNITED STATES VISIBLE GRAIN SUPPLY

Visible supply of grain in the United States, as compiled by the secretary of the Chicago Board of Trade, in bushels (000's omitted) on June 1, and corresponding date of a year ago:

	Wheat		Corn		Oats		Rye		Barley	
	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945
Baltimore	826	1,520	1,340	1,302	270	15	19	..	..	2
Boston	65	141	..	..	..	..	..	250	..	..
Buffalo	4,825	2,991	577	702	1,321	3,509	..	1,043	299	549
Afloat	1,441	953	..	..	..	..	..	..	..	..
Chicago	176	1,535	10,538	1,970	506	3,243	234	4,505	228	1,383
Afloat	..	..	..	..	..	..	..	..	..	..
Duluth	6,485	12,195	1	535	716	1,120	..	241	331	4,424
Fort Worth	2,211	3,795	31	185	77	147	..	31	33	47
Galveston	764	1,750	308	254	..	..	..	..	..	..
Hutchinson	3,185	6,075	..	..	..	..	..	..	..	..
Indianapolis	207	479	2,650	1,663	68	100	..	71	2	..
Kansas City	2,583	10,023	1,524	2,156	58	65	13	267	188	518
Milwaukee	..	159	647	105	20	6	..	..	2,151	3,207
Minneapolis	1,006	4,550	406	833	1,692	737	73	1,010	1,759	3,839
New Orleans	121	734	260	405	94	42	..	9	..	..
New York	129	235	15	3	7	30	1	271	..	..
Omaha	1,455	2,255	4,303	2,050	214	179	20	22	29	131
Peoria	..	..	328	392	..	..	..	..	..	51
Philadelphia	633	739	367	89	42	49	50	99	..	..
St. Louis	80	474	1,148	1,234	258	411	2	19	1	115
Sioux City	221	108	1,028	85	20	50	..	8	5	5
St. Joseph	421	1,349	477	920	142	366	..	3	14	29
Wichita	808	2,587	2	2	..	6	..	..	..	152
Lakes	1,183	653	..	..	..	..	..	..	..	..
Totals	28,825	55,300	26,450	14,885	5,605	10,075	412	7,849	5,042	14,452

GRAIN FUTURES—CLOSING PRICES

Closing prices of grain futures at leading markets, in cents per bushel:

WHEAT

	Minneapolis		Chicago		Kansas City		Seattle		Duluth	
	July	Sept.	July	Sept.	July	Sept.	July	Sept.	July	Sept.
June 4	190½	190½	193½	193½	188⅝	188⅝	181⅝	....	....	....
June 5	190½	190½	198½	198½	178⅝	178⅝	181⅝	....	....	....
June 6	190½	190½	198½	198½	178⅝	178⅝	181⅝	....	....	....
June 7	190½	190½	198½	198½	188⅝	188⅝	181⅝	....	....	....
June 8	190½	190½	198½	198½	188⅝	188⅝	181⅝	....	....	....
June 10	190½	190½	198½	198½	188⅝	188⅝	181⅝	....	....	....

	CORN		RYE			OATS			
	Chicago		Chicago		Minneapolis	Chicago		Minneapolis	
	July	Sept.	July	Sept.	July Sept.	July	Sept.	July	Sept.
June 4	131½	131½	158½	158½	....	87⅛	84	84	80⅝
June 5	136½	136½	158½	158½	....	88	85½	84	81
June 6	141½	141½	158½	158½	....	88	85⅝	84	82⅝
June 7	146½	146½	158½	158½	....	88	88	84	84
June 8	146½	146½	158½	158½	....	88	88	84	84
June 10	146½	146½	158½	158½	....	88	88	84	84

WANT ADS

Advertisements in this department are 5c per word; minimum charge, $1. (Count six words for signature.) Situation Wanted advertisements will be accepted for 2½c per word, 50c minimum. Display Want Ads $4 per inch per insertion. All Want Ads cash with order.

HELP WANTED

TWO MILLWRIGHTS WANTED BY EASTern milling concern not affected by shortage of wheat, steady work. Address 8010, The Northwestern Miller, Minneapolis 2, Minn.

Capable

MILLWRIGHT

for permanent job with progressive feed mill. $1.30 per hour plus overtime.

J. T. GIBBONS, INC.
P. O. Box 284
New Orleans, Louisiana

MACHINERY FOR SALE

SUBJECT TO PRIOR SALE WE HAVE for disposal machinery and equipment for a 75-bbl (24-hr. capacity) flour mill. We invite your inspection and bid. Sheridan Milling Co., Sheridan, Ind.

SITUATIONS WANTED

WANTED — POSITION AS MILLER IN any size mill. Very good sifter and belt repair man. Steady job wanted. Address 8005, The Northwestern Miller, Minneapolis 2, Minn.

CEREAL CHEMIST — FIFTEEN YEARS' diversified experience. Desires permanent connection with progressive concern. Available immediately. Address 8006, The Northwestern Miller, Minneapolis 2, Minn.

WANTED POSITION—HEAD MILLER 25 years with leading mills; all kinds wheat. Capable producing good 80% extraction flour. Best of references. Address 7947, The Northwestern Miller, 612 Board of Trade Bldg., Kansas City 6, Mo.

MACHINERY WANTED

2 OR 3 PLANSIFTERS OR LOW TYPE that will handle 500-bbl flour capacity. Also four large purifiers. Fraser Milling Co., Hereford, Texas.

WANTED—BRIGHTWOOD BOX MACHINE —Pneumatic scale packaging machine; two flour blenders. Address 4970, The Northwestern Miller, Minneapolis 2, Minn.

WANTED—CAN UTILIZE 5 TO 10 ANDERson Oil Expellers. Give details, serial numbers, motor size and price. Address 7897, The Northwestern Miller, Minneapolis 2, Minn.

The Following Mill Equipment For Sale

Item	Quantity	Description	Unit Price
1.	6	Stands, Nordyke & Marmon, Flour Rolls, 9x18, complete with drives and feeder..Each	$ 150.00
2.	2	6-12 Nordyke & Marmon Flour Sifters.Each	$ 250.00
3.	1	No. 1 Nordyke & Marmon Purifier.....	$ 75.00
4.	1	No. 3 Nordyke & Marmon Purifier.....	$ 150.00
5.	2	Perfection Flour Dust Collectors, Clean.Each	$ 75.00
6	1	1,600 Lb. Gredge Gray Co. Flour Mixing Machine with hopper and scales.....	$ 600.00
7.	2	No. 2 Nordyke & Marmon Bran Dusters.Each	$ 50.00
8.	1	No. 3 Invincible Double Scouring Machine..	$ 100.00
9.	1	No. 2 Invincible Scouring Machine.....	$ 85.00
10.	1	Nordyke & Marmon 20x8 Hexagon Reel....	$ 50.00
11.	1	Nordyke & Marmon 20x8 Round Reel.....	$ 50.00
12.	1	Nordyke & Marmon Differential Reel.....	$ 100.00
13.	1	Williams Hammer Mill, 7x14" inlet, direct connected 40 horsepower motor, speed 3,600 RPM, 220/440 volt, 3 phase, complete with Cutler Hammer starter, outboard fan and piping, both the mill and motor are full ball bearing	$1,000.00
14.	1	Perfection Corn Cleaner, Size No. 1.....	$ 60.00
15.	1	40 Bu. Corn Meal per hour mill, consisting of: 2 stands Nordyke & Marmon rolls, 1 4-section sifter, 1 No. 1 Monitor corn cleaner, 1 Nordyke & Marmon packer, 5 elevators, approximately 35 ft. each and drives.....	$1,450.00
16.	1	4 Bu. Richardson Automatic Elevator Weighing Scale	$ 500.00

We have large quantities of elevator buckets, belting, pulleys, chuting, scales and other miscellaneous mill accessories.

Terms: F.O.B. Cars, Bristol, Tennessee.

For further information contact:

Mr. W. F. Hamlin, Model Engineering Corp., Bristol, Tenn., or Mr. H. C. Purvine, Milling Engineer and Manufacturer's Agent, Bristol, Tenn.

May Exports

(Continued from page 9.)

wheat milled in bond in the U. S. was shipped, making total shipments from the U. S. during the five months of 4,073,000 tons of grain and grain products.

The total for the first five months of 1946 included: wheat 2,692,000 tons; flour 1,303,000 tons; corn 65,000 tons; corn products 13,000 tons.

Wheat Crop

(Continued from page 9.)

000 bus of the all-time record crop of 1944, was estimated. This is about 360,000,000 bus above the 10-year average.

A very small rye crop of 20,759,000 bus was forecast. Last year's production was 26,354,000 bus and the 10-year average 42,356,000.

Barley production was estimated at 230,559,000 bus, compared with 263,961,000 last year and 289,598,000 for the 10-year average.

Stocks of barley on farms on June 1 were reported at 45,594,000 bus, or 17.3% of the 1945 crop. Stocks a year ago totaled 60,957,000 bus, or 21.9% of the 1944 crop. Stocks for the 10-year average were 52,644,000 bus or 18.2% of the crops.

Stocks of rye on farms on June 1 were reported at 1,763,000 bus, or 6.7% of the 1945 crop. Stocks a year ago totaled 4,046,000 bus, or 15.9% of the 1944 crop. Stocks for the 10-year average were 11,292,000 bus, or 26% of the crops.

The per acre yield of winter wheat was indicated at 16.9 bus, compared with 16.2 a month ago, 17.6 a year ago and 15.9 for the 10-year average. No per acre yield figures were given for spring wheat.

The per acre yield of rye was indicated at 11.7 bus, compared with 12 a month ago, 13.3 last year and 12.2 for the 10-year average.

The condition of spring crops on June 1 this year, last year, and the 10-year average, respectively, included:

All spring wheat 79% of normal, compared with 84% last year, and 81% for the 10-year average.

Durum (spring) wheat 80, 83 and 81.

Estimated production of winter wheat in leading states, with comparisons, in thousand bushels:

	June 1	May 1	Final 1945
Ohio	45,770	43,780	60,993
Indiana	29,904	29,904	35,842
Illinois	22,185	23,490	25,456
Michigan	21,528	21,080	27,648
Missouri	21,151	22,778	22,518
Nebraska	75,211	75,411	84,226
Kansas	186,720	168,048	207,917
Oklahoma	73,125	56,250	70,917
Texas	41,960	35,666	41,778
Montana	27,965	35,156	30,162
Colorado	31,320	32,886	31,967
Washington	63,626	65,820	44,253
Oregon	19,134	19,134	16,671

State estimates on spring wheat based on intended acreage and June 1 condition of crop:

	June 1	Final 1945	Average 1934-43
Minnesota	19,949	18,794	20,480
North Dakota	131,865	161,888	84,362
South Dakota	42,383	48,636	21,603
Montana	22,021	27,564	30,193
Idaho	11,832	11,005	10,501
Washington	10,200	18,960	18,962

Indicated production of oats in leading states, based on intended acreage and June 1 condition:

	June 1	Final 1945	Average 1934-43
Ohio	59,901	53,510	40,285
Indiana	64,467	59,682	39,340
Illinois	157,120	158,102	118,622
Wisconsin	120,200	152,337	80,256
Minnesota	218,640	242,640	140,307
Iowa	239,760	214,440	182,260
Missouri	57,350	31,161	42,694
North Dakota	57,925	82,484	40,050
South Dakota	105,120	147,963	47,258
Nebraska	69,316	74,120	42,078
Kansas	35,040	17,668	37,770
Oklahoma	20,448	19,855	27,048
Texas	31,433	42,441	33,425

Estimated production of rye in leading states:

	June 1	May 1	Final 1945
Indiana	900	900	1,112
Illinois	480	480	588
Michigan	714	714	900
Wisconsin	847	847	1,261
Minnesota	1,554	1,776	1,815
North Dakota	3,025	3,388	2,418
South Dakota	2,400	2,400	4,495
Nebraska	2,772	2,772	4,472
Kansas	766	766	788
Oklahoma	640	600	1,064
Colorado	650	715	780

MILLING ENGINEERS, INC.

Designers and Builders for the Grain Processing Industries

1016 Baltimore • Kansas City, Mo.

YES!...

We Design and Plan New Feed Mills
We Redesign Old Mills
We Streamline Plant and Office Routines

If You Want to Reduce Your Costs, Call Us

ARTHUR L. CHANDLER & CO.
Business Engineers
Merchants Exchange ST. LOUIS, MO.

WANTED: Low Ash Quality Flours for Bulk Family Trade.
COHEN E. WILLIAMS & SONS
Flour - BROKERS - Feed
L. D. 86 Nashville, Tenn.

Interested in Obsolete Bags — Cotton, Burlap, Paper. What have you?
Offer Processed Used Bags.
What do you need?
Write, Wire, Phone GREAT WESTERN BAG CO.
1427 N. Broadway St. Louis 6, Mo.
W. J. CUNNIFF, Mgr.

LONG ESTABLISHED, REPUTABLE CONCERN WITH SUBSTANTIAL CAPITAL

WILL BUY FOR CASH

Assets, Capital Stock, Family Holdings of

INDUSTRIAL PLANTS, MFG. DIVISIONS, UNITS

Among other considerations, you may realize certain desirable tax advantages

We are Principals and act only in strictest confidence, retaining personnel wherever possible. Address

BOX 1203, 1474 BROADWAY, NEW YORK (18), N. Y.

ARNOLD
...of...
STERLING
Mills and Sells
"Thoro-Bread"
(Diastatically Balanced)
A very fine, strong, altogether uniform and dependable flour
ARNOLD MILLING CO.
STERLING, KANSAS

FAMILY PATENTS
White Crest Red Crest
Cake and Pastry Flours
J. C. L.
Sponge Cracker Flour
The J. C. Lysle Milling Company
Leavenworth, Kansas

The Moundridge Milling Co.
FAMILY FLOUR — BAKERY FLOUR
CRACKER FLOUR
SPECIALTY PRODUCTS
General Offices: MOUNDRIDGE, KANSAS

DIXIE LILY
A flour without an equal anywhere
Plain and Self-rising
THE BUHLER MILL & ELEVATOR CO.
BUHLER, KANSAS
Southern Sales Office
933-35 Exchange Bldg., Memphis, Tenn.

HARDESTY MILLING CO.
Quality Millers for
Over Half a Century
Domestic and Export DOVER, OHIO

MotherHubbard
FOR QUALITY, FLAVOR AND ECONOMY
Flour Hubbard Milling Co.

We are always ready to fill your requirements of
MILLING WHEAT
MOORE-SEAVER GRAIN CO.
Operating Kansas City Southern Elevator
Kansas City, Mo.

I-H
QUALITY MILLED FLOURS
Ismert-Hincke Milling Co.
Kansas City, Mo.

OPA

(Continued from page 23.)

the legislator as a politician seeking re-election would not dare advocate the return of the obnoxious rationing of gasoline, meat and fats.

To placate the women, the house on April 17 refused to kill OPA outright, by a vote of 178 to 34, and the next day voted to extend price control by the overwhelming vote of 355 to 42. To placate the men, they voted 245 to 150 to remove the food subsidies, without which price control is impossible. A vote to reinstate rationing, advocated by some, if taken would have been rejected by about 400 to 1.

This is an excellent illustration of a simple political solution for a complex economic problem. Since the public favors both price fixing and free prices, the congressmen and senators will attempt to give the public both.

——BREAD IS THE STAFF OF LIFE——

1945 FLOUR IMPORTS LOWER THAN IN 1944

London, Eng.—Imports of flour into the United Kingdom during 1945 were lower than during the previous year, but were greater than imports during 1938. Imports of wheat during 1945 were greater than imports during 1944, but were substantially below imports during 1938.

The following table has been prepared from official government records:

Imports of Wheat, Flour and Oat Products Into the United Kingdom

The following table, prepared by the London office of The Northwestern Miller from official government records, shows imports of wheat, flour and oat products into the United Kingdom for the years 1938, 1944 and 1945. The figures for the intervening war years are not available:

	Wheat bus	Meal & flour sacks (280 lbs)	Oat products sacks (9,280 lbs)
1938.....	189,425,532	4,386,713	341,001
1944.....	105,402,067	9,046,266	106,641
1945.....	132,537,909	6,175,666	436,041

Imports of Wheat and Flour
(in tons of 2,240 lbs)

	1938	1944	1945
Australia		25,367	6,974
Canada		3,022,466	3,796,510
Other British countries		989	2,303

——BREAD IS THE STAFF OF LIFE——

DUTCH FLOUR IMPORTERS IN RELIEF ORGANIZATION

London, Eng. — In a story about the Stichting Importbloembureau (Institute Import Flour Board) in The Northwestern Miller of March 26, the names of P. Dönszelmann and J. L. van Walbeek, the Rotterdam members of the board, were inadvertently omitted. They will be remembered as men of long experience in the flour import trade of Holland.

Mr. Dönszelmann is a member of the firm of Dönszelmann & Co.'s Graan-en Graanproducten Maatschappij, and Mr. Walbeek, of Jas & van Walbeek, both of Rotterdam.

They have been connected with the Stichting Importbloembureau since its inception and have given valuable assistance in the work of distributing the relief flour.

——BREAD IS THE STAFF OF LIFE——

CO-OP BAKERS' WAGE RAISED

London, Eng.—In the northwest of England 1,100 bakery workers, employed in 120 co-operative bakeries, will receive wage increases, following negotiations in Manchester between operative union officials and representatives of the Co-operative Union.

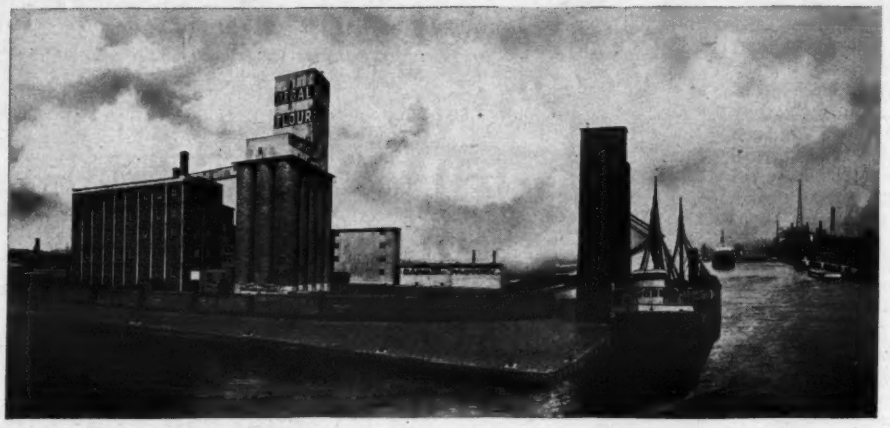
ON THE JOB
Everywhere!
CARGILL OFFERS
✓ Instant communication with all markets.
✓ Specialists for each kind of grain.
✓ Unequalled facilities for handling, storing, shipping.
CARGILL INCORPORATED
Main Offices: Minneapolis
COAST-TO-COAST GRAIN SERVICE

ROBIN'S BEST FLOUR
The ROBINSON MILLING COMPANY
SALINA, KANSAS

Wisconsin Rye Flour
for Performance and Satisfaction
Distinctive Quality and Flavor
EXCLUSIVE MILLERS OF RYE FLOUR
GLOBE MILLING CO.
WATERTOWN, WIS.
"WISCONSIN MAKES THE BEST RYE FLOUR"

The St. Lawrence Flour Mills Co., Ltd.

MONTREAL • CANADA



Millers of Canadian
Hard Wheat Flours

"Regal"
"Fleur de Lis"
"National"
"Daily Bread"
"Citadel"

Quality uniformly maintained for over 25 years

Maple Leaf Milling Co. Limited.

HEAD OFFICE TORONTO, CANADA

EXPORT OFFICES:
TORONTO NEW YORK VANCOUVER

CABLE ADDRESS "MAPLEFLOUR" TORONTO, CANADA

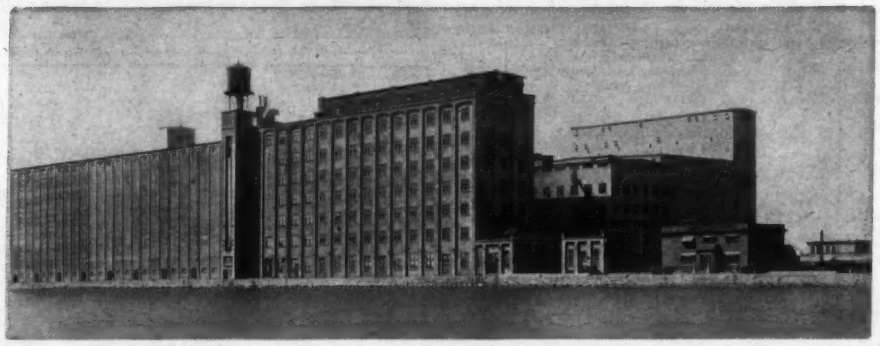
CANADA'S LARGEST FLOUR MILLERS

SPRING WHEAT FLOURS

Cream of the West

Castle

Nelson



WINTER WHEAT FLOURS

Monarch

Crescent

•

Canary Corn Meal

PORT COLBORNE MILLS—CAPACITY 12,000 BBLS. DAILY

QUALITY UNIFORMLY MAINTAINED SINCE 1887

Lake of the Woods Milling Co., Limited

Cable Address
"HASTINGS"
Montreal

ALL
CABLE CODES
USED

Makers of CANADIAN HARD SPRING WHEAT *Flour*

Owning and Operating
Wheat-Receiving Elevators in Manitoba, Saskatchewan and Alberta

Mills at
Brantford, Keewatin, Medicine Hat

HEAD OFFICE: MONTREAL

WESTERN OFFICE: WINNIPEG

WESTERN CANADA FLOUR MILLS COMPANY LIMITED

CABLE: LAKURON — TORONTO, CANADA

SPECIALISTS IN MILLING

All Western Canada Hard Wheat Flours

PURITY • THREE STARS
CANADA CREAM • STERLING

GREAT WEST
BATTLE
MAITLAND
HURON

UNIFORM QUALITY GUARANTEED

FLOUR MILLING CAPACITY 9500 BBLS DAILY • ROLLED OATS AND OATMEAL 400 BBLS DAILY

Courtesy C.P.R.

BANFF, ALBERTA

Popular mountain resort in the Canadian Rockies, Banff, 4,940 feet above sea level, is the centre of some of the finest scenery in all Canada—a section which is known throughout the world for its unusual scenic attraction.

Hot sulphur springs, excellent hotel accommodation and numerous attractions both winter and summer draw visitors from all parts of Canada, the United States and abroad.

On the main line of the C.P.R. it is easily reached, and the famous Banff-Jasper highway makes the entire district readily accessible to the motorist.

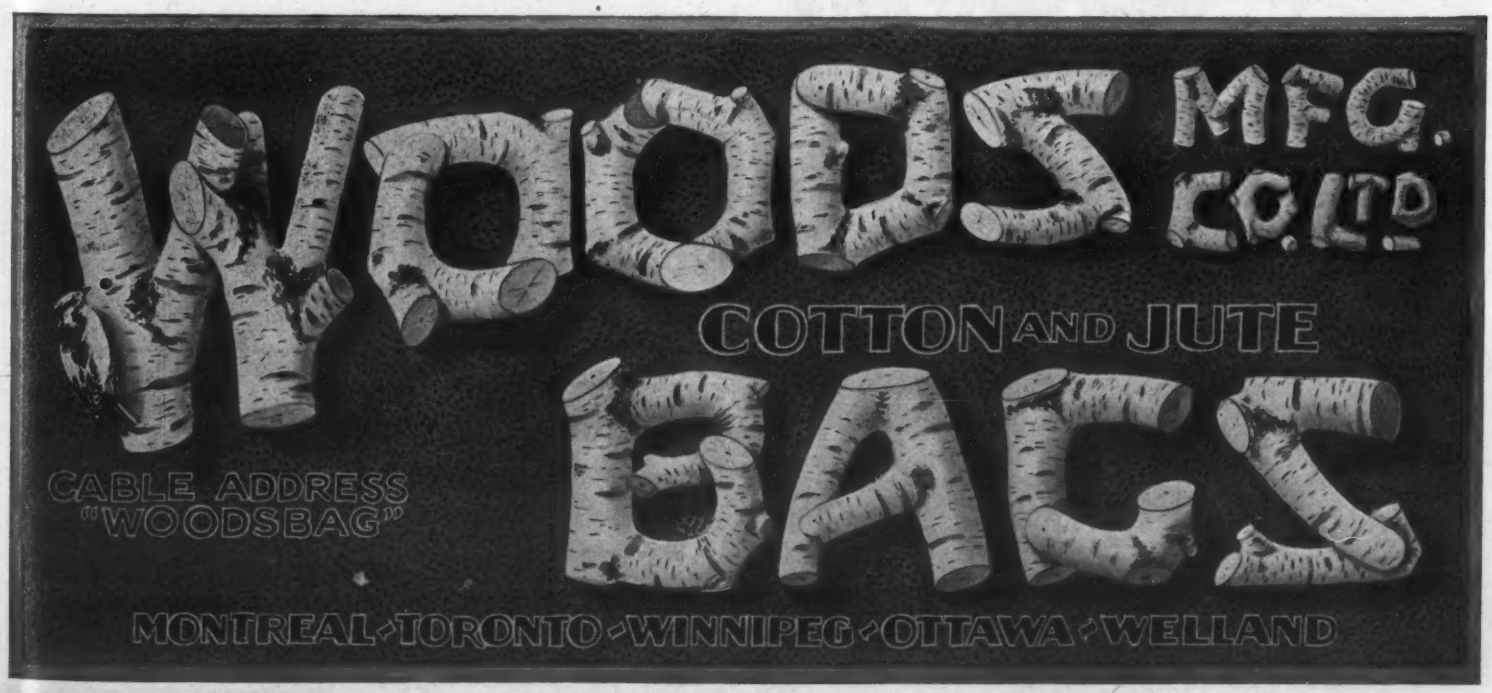
GREAT STAR FLOUR MILLS, Ltd.
Successors to Wolverton Flour Mills Co., Ltd.
Canadian Spring and Winter Wheat Flour
"SILVERKING" "GREAT STAR" "WOLF" "KEYSTONE"
Cable Address: "WOLMACS" ST. MARY'S, ONTARIO, CANADA

LAKESIDE MILLING COMPANY, Ltd.
"BLOSSOM *of* CANADA" "YORK" "NORDIC"
Cable Address: LAKESIDE TORONTO, CANADA

CANADIAN HARD SPRING WHEAT
529 Elevators in Manitoba, Saskatchewan and Alberta.
UNITED GRAIN GROWERS, LTD.
Winnipeg, Manitoba

W. S. KIMPTON & SONS
Flour Millers
MELBOURNE, AUSTRALIA
Cables: "GLUTEN," Melbourne

PARRISH & HEIMBECKER, LIMITED
Domestic and Export
Flour, Feed and Grain
Export Office — TORONTO, CANADA



CHOICEST CANADIAN *Hard Spring Wheat*

and perfect milling facilities have placed our products in the van.

BRANDS

"VICTORY" · "PRAIRIE BLOSSOM"
"WOODLAND" · · "HOMELAND"

THE DOMINION FLOUR MILLS, LTD.

Cable Address: "DOMFLOUR" MONTREAL, CANADA

IT'S IN THE RECORD
with
Robin Hood
FLOUR
✓ Laboratory Control
✓ Uniformity
✓ Performance

CANADIAN
SPRING WHEAT FLOUR

ROLLED OATS

OATMEAL

Robin Hood Flour Mills Limited

Mills and Sales Offices: VANCOUVER · CALGARY · MOOSE JAW · SASKATOON
WINNIPEG · TORONTO · HUMBERSTONE · MONTREAL · MONCTON
EASTERN EXPORT OFFICES: MONTREAL · ORIENTAL EXPORT OFFICE: VANCOUVER

SPILLERS LIMITED

• •

Millers of the
HIGHEST QUALITY FLOUR
and Manufacturers of
PROVENDER AND BALANCED RATIONS
FOR ALL CLASSES OF FARM STOCK

• •

Head Office:
40, St. Mary Axe, E. C. 3.
LONDON, ENGLAND

Cables:
"Milligroup"
London

Since 1857
James Richardson & Sons
LIMITED
Grain Merchants Shippers and Exporters
WINNIPEG · CANADA
Export Offices - MONTREAL and VANCOUVER
Cable Address: "JAMESRICH"

COATSWORTH & COOPER
LIMITED
C A N D
Grain and Feeds
Exporters
TORONTO, CANADA

TELCO
Grain Shippers
Domestic and Export
TORONTO ELEVATORS
LIMITED
Toronto Canada

CANADIAN-BEMIS
BAG
COMPANY LIMITED
Manufacturers and Importers

COTTON JUTE
AND
PAPER BAGS
BURLAPS & TWINES

WINNIPEG — VANCOUVER

OGILVIE
PRODUCTS
Milled in CANADA
Sold Throughout the WORLD
OGILVIE FLOUR · ROYAL HOUSEHOLD
GLENORA · FAMOUS · BUFFALO
OGILVIE OATS · WHEAT-HEARTS
BLENDIES · VITA-B (WHEAT GERM) CEREAL
TONIK WHEAT GERM
THE OGILVIE FLOUR MILLS CO. LIMITED
MONTREAL - CANADA
MILLS AT — MONTREAL - FORT WILLIAM - WINNIPEG - EDMONTON - MEDICINE HAT
CABLE ADDRESS - - - OGILVIE MONTREAL - - - ALL CODES USED

Export Flour
INSURANCE
"All Risks"
Special Service to Flour Mills on
Export and Domestic
Ocean and Lake Insurance
and Transportation
Thirty-Five Years' Experience in
Export Flour Handling
Western Assurance
Company
TORONTO, CANADA
F. C. THOMPSON CO., LTD.
Canadian Agents
Royal Bank Bldg., Toronto, Canada
APPLETON & COX, INC.,
American Agents
111 John Street, New York

MUNGO SCOTT, Pty., Ltd.
FLOUR MILLERS
Cable Address: "SUPERB" Established 1894
Summer Hill, Sydney, N.S.W., Australia

R. C. PRATT
Exporter
FLOUR, CEREALS, FEEDS
65 King Street, East
TORONTO, CANADA

GILLESPIE BROS., Pty., Ltd.
FLOUR MILLERS
SYDNEY, N.S.W., AUSTRALIA
CABLE ADDRESS, "GILLESPIE," SYDNEY

GEORGE URBAN MILLING CO., BUFFALO, N. Y.
1846 « Our hundred years' experience » 1946
plus
Modern Laboratory Control
Insures Our Customers of
80% Flour of Excellent Baking Quality
HIGH GLUTEN SPRING WHEAT FLOUR
STANDARD SPRING WHEAT FLOUR
SOFT WHEAT FLOUR

JUTE BAGS COTTON

OLDEST ESTABLISHED MANUFACTURERS OF
JUTE BAGS COTTON
IN CANADA
Factories—MONTREAL - TORONTO
The CANADIAN BAG CO., Limited
Head Office: MONTREAL, QUEBEC

JUTE BAGS COTTON

After all!

"THERE IS NO SUBSTITUTE FOR QUALITY"

WINGOLD
WHEAT AND RYE
FLOURS

RECOGNIZED FOR
Quality and Shop Performance

BAY STATE MILLING CO.
WINONA, MINNESOTA
Millers of HARD SPRING WHEAT and RYE FLOURS

For Over Fifty Years...

KING'S GOLD
KING'S BEST
GOLD MINE
EXCELSIOR

Minnesota makes the Best Flour in the World.

...Made in Minnesota

H. H. King Flour Mills Company
MINNEAPOLIS, MINNESOTA

"ROCK RIVER" RYE "OLD TIMES" BUCKWHEAT
"BLODGETT'S"
RYE
All Grades—From Darkest Dark to the Whitest White
—Specially Milled by the Blodgett Family—Since 1849
FRANK H. BLODGETT, Inc., Janesville, Wisconsin

Exceptional Bakery Flours
TWELVE-40 NO-RISK PLA-SAFE
THE ABILENE FLOUR MILLS CO.
ABILENE, KANSAS
Capacity 3,000 Cwts. Daily *Grain Storage 1,000,000 Bus.*

GRIST FOR THE GRINS

"Who is that impressive-looking woman over there?"

"That's Mrs. Moore," was the reply. "She's a remarkably strong-minded woman. It is said she commands a large salary."

"Indeed—and how does she earn it?"

"Earn it?—oh, no!—her husband earns it, she commands it."

◆ ◆ ◆

A man called on his banker and asked, "Are you worried about whether I can meet my note next month?"

"Yes, of course," confessed the banker.

"Good," said the client, "that's what I'm paying you six per cent for."

◆ ◆ ◆

For an hour the guard impatiently watched the convict's efforts to break a big rock, then demanded, "Here, gimme that sledge!" and with one mighty blow smashed it to pieces.

"Well, no wonder," cried the convict, "after I'd been softening it up for you."

◆ ◆ ◆

The long-winded speaker was bellowing. The audience was getting fidgety. Finally he paused to lubricate his tonsils with a glass of water. "And now, ladies and gentlemen," he went on, "allow me to repeat the words of the immortal Webster."

"Let's get out of here," growled a man in the back row to his companion. "He's going to start in on the dictionary!"

◆ ◆ ◆

"When I was a little boy," said the black market operator, "my highest ambition was to be a pirate."

"You're a lucky man, indeed," said the customer. "It isn't every man who can realize his boyhood ambition."

◆ ◆ ◆

John Smith witnessed a holdup. When the cops arrived they asked him his name.

"John Smith," said Smith.

"Cut the comedy," snapped the cop. "What's your real name."

"Okay," said Smith, "put me down as Harold Ickes."

"That's more like it," said the officer. "You can't fool me with that Smith stuff."

◆ ◆ ◆

Billy: Has your new baby learned to talk yet?

Jimmy: Yeah. Now we're trying to teach him to keep quiet.

◆ ◆ ◆

"You've got quite a whisker there—how many times a day do you shave?"

"Oh—forty or fifty times."

"Say, are you crazy?"

"No, but I'M a barber."

◆ ◆ ◆

Wife: You old meanie; you haven't said a word about my new hat.

Husband: Tell me how much it cost and then I'll know what to say about it.

Marsh & McLennan
INCORPORATED
Chicago New York
Minneapolis

Transportation
Insurance on Flour
Against All Risks

Correspondents in American and Foreign Ports

WHITEGOLD
(Standard Patent)
BIRCHMONT
(Short Patent)
ST. CLOUD MILLING CO.
Mills at ST. CLOUD, MINN. Sales Office MINNEAPOLIS

We are always in the Market for Hard and Soft Wheat Flours
GENERAL BAKING COMPANY
420 Lexington Ave. NEW YORK CITY

S. R. STRISIK CO.
Flour Mill Agents
Produce Exchange NEW YORK

WHITE & COMPANY
"The Flour People"
313 Chamber of Commerce Bldg
Baltimore 2, Md.

FLOUR
Broker and Merchandiser
DAVID COLEMAN, Incorporated
Members N. Y. Produce Exchange
Produce Ex. - NEW YORK
New England Office: 211 Bryant St., Malden, Mass.

KELLY-ERICKSON CO.
Flour Brokers
OMAHA, NEB.
Offices:
New York City and San Francisco

HUBERT J. HORAN
FOREIGN FLOUR DOMESTIC
31st and Chestnut Streets
PHILADELPHIA 4, PA.

Sun-cured and Dehydrated
ALFALFA MEAL
DENVER ALFALFA MILLING & PRODUCTS CO.
Lamar, Colorado
Merchants Exchange, ST. LOUIS

REPRESENTATIVE FLOUR IMPORTERS OF FOREIGN COUNTRIES

M. STANNARD E. A. GREEN
Established 1870
STANNARD, COLLINS & CO.
FLOUR, GRAIN AND CEREAL PRODUCT IMPORTERS
Cory Buildings, Fenchurch Street LONDON, E. C. 3

Cable Address: "DORFEACH," London
MARDORF, PEACH & CO., Ltd.
FLOUR IMPORTERS
52, Mark Lane, LONDON, E. C. 3

COVENTRY, SHEPPARD & CO.
FLOUR IMPORTERS
17, Corn Exchange Chambers LONDON, E. C. 3
Cable Address. "COVENTRY," London

C. E. FEAST & CO.
(CHAS. E. FEAST)
FLOUR IMPORTERS
Subscription Room, Seething Lane, LONDON, E. C. 3
Cable Address "Feastanco," London.

Cable Address: "TRONTOPRI," London
SIDNEY SMITH
(FLOUR, FEED & GRAIN, LTD.)
52 Mark Lane LONDON, E. C. 3
FLOUR, GRAIN, FEED, CORN AND CEREAL PRODUCTS
Codes: Riverside, A B C 5th Ed., also Bentley and Western Union 5 Letter Codes

PILLMAN & PHILLIPS
FLOUR IMPORTERS
LONDON, LIVERPOOL, BRISTOL, DUBLIN, BELFAST

HARRIS BROS. & CO. (Grain) Ltd.
COMMISSION AGENTS and FACTORS
GRAIN, SEEDS, OIL, FEEDINGSTUFFS and FLOUR
Corys' Buildings
57/59 St. Mary Axe LONDON, E. C. 3
9 Brunswick Street LIVERPOOL
68 Constitution Street LEITH
81 Hope Street GLASGOW

FENNELL, SPENCE & CO.
IMPORTERS OF GRAIN, FLOUR, LINSEED AND COTTONSEED PRODUCTS, FEED, ETC.
20, Chapel Street, LIVERPOOL, ENG.
Cable Address: "FENNELL," Liverpool

WILLIAM MORRISON & SON
LTD.
FLOUR IMPORTERS
Baltic Chambers, 50 Wellington Street GLASGOW
Cable Address. "WAVERLEY"

McCONNELL & REID, LTD.
FLOUR IMPORTERS
19 Waterloo St. GLASGOW
Cable Address: "MARVEL," Glasgow

ANDREW TAYLOR & CO.
(GLASGOW) LTD.
IMPORTERS OF FLOUR, CEREALS, OATMEALS, GRAIN
163, Hope Street, GLASGOW
Cable Address: "Goldenglo," Glasgow

ROBERT CARSON & CO.
LTD.
FLOUR IMPORTERS
50 Wellington St. GLASGOW
Cable Address: "DIPLOMA," Glasgow

FARQUHAR BROTHERS
FLOUR MERCHANTS
50 Wellington Street GLASGOW, C.2.
C. I. F. business much preferred.
Cable Address: "Glencairn," Glasgow

CRAWFORD & LAW
FLOUR IMPORTERS
50 Wellington Street GLASGOW, C. 2
and at 27, Corn Exchange Chambers LONDON, E. C. 3
Cable Address: "CAMELLIA," Glasgow

D. T. RUSSELL & BAIRD, Ltd.
45 Hope Street GLASGOW
IMPORTERS OF FLOUR, OATMEALS, CEREALS
OFFICES ALSO AT
LIVERPOOL LEITH
DUBLIN BELFAST

WATSON & PHILIP, LTD.
FLOUR IMPORTERS
155 Wallace St., GLASGOW, C. 5
41 Constitution St., LEITH
Esplanade Buildings, DUNDEE
42 Regent Quay, ABERDEEN
Cables: "PHILIP," Dundee

STOLP & CO., LTD.
FLOUR IMPORTERS
Also Importers of All Kinds of
WHEAT AND RYE FLOURS, SEMOLINA AND ROLLED OATS
Represented in Central Europe and Belgium
Damrak 47-48, AMSTERDAM, HOLLAND
Cable Address: "Cleo." All Codes Used. Bankers: Amsterdamsche Bank

GRIPPELING & VERKLEY N. V.
FLOUR SPECIALISTS SINCE 1889
AMSTERDAM
Cable Address: Bygrip, Amsterdam
Codes: Bentley's Complete Phrase, A.B.C. 5th Ed., Riverside, Private
Bankers: Twentsche Bank, Amsterdam Reference: Guarantee Trust, New York

FELIX COHEN
FLOUR IMPORTERS SINCE 1879
Proveniersingel 81A (Postbox 196) ROTTERDAM, HOLLAND
Cable Address: "FELIXCOHEN" Reference: De Twentsche Bank

TARVO MEELFABRIEK M. J. VOS
(Successor M. J. Vos)
HAARLEM, HOLLAND
(Established 1908)
IMPORTER OF ALL KINDS OF FLOUR AND CEREALS
Samples and Offers Solicited
Bankers: Nederlandsche Handel Mij. N. V. Cable Address: "TARVO," Haarlem

JAMES ALLEN & CO., (Belfast) Ltd.
FLOUR AND CEREAL PRODUCT IMPORTERS
Ulster Bank Chambers, 73 May Street BELFAST, IRELAND
Cable Address: "ANCHOR," Belfast

H. J. B. M. RADEMAKER
GENERAL AGENCY
Solicits Correspondence With Shippers of FLOUR, CEREALS, FEED, SEEDS AND PULSE
Joh. Verhulststraat 141 AMSTERDAM, Z.
Cable Address: "Vos"
Codes: Riverside, Bentley's Wieger's Blitz (1908 & 1929)

N. V. Agentuur & Commissiehandel v/h P. C. VIS & CO.
AMSTERDAM
FLOUR IMPORTERS
Established 1874 Cable Address: "Visco"

Established 1885
BULSING & HESLENFELD
FLOUR IMPORTERS
Also Handling Bakers' Sundries
Solicit Correspondence From Manufacturers and Exporters
Cable Address: "Heslenfeld," Amsterdam
Damrak 20-22 AMSTERDAM (C)

N. V. GEBRS. VAN DEN BERGH'S
KONINKLIJKE FABRIEKEN
P. O. BOX 82, ROTTERDAM
BIGGEST BUYERS OF ALL KINDS OF FLOUR AND FEEDSTUFFS
References:
De Twentsche Bank, N. V., Rotterdam
The Guarantee Trust Co., New York
Cable Address: "Locomotion," Rotterdam

VERHOEFF'S MEEL-IMPORT
(late Hatenboer & Verhoeff)
Importers of
FLOUR, FEEDINGSTUFFS, ETC.
ROTTERDAM, HOLLAND
Cables: Radium Corr.: Postbox 1151
Ref.: Incasso-Bank N. V., Rotterdam
Guaranty Trust Co., New York

LØKEN & CO. A/S
Established 1871 OSLO, NORWAY
Working Norway, Finland, Denmark and Sweden
Reference:
Chase National Bank of the City of New York, N. Y.
Midland Bank, Ltd., Poultry & Princes St., London

Buy and Sell Through
WANT ADS
...in...
THE NORTHWESTERN MILLER

Low Grades and Millfeed
I. S. JOSEPH CO., INC.
Minneapolis, Minn.

KELLY Flour Co.
DOMESTIC *Merchandisers* EXPORT
919 No. Michigan Ave.
CHICAGO

FLOUR — GRAIN PRODUCTS
Oilseed Cakes and Meals
Feedstuffs — Vegetable Oils
•
BRADLEY & BAKER
Commerce Building New York 17
Cable Address: Bradbake — All Codes

Francis M. Franco
FLOUR
Produce Exchange, NEW YORK

Johnson-Herbert & Co.
FLOUR
444 W. Grand Ave. CHICAGO

H. J. GREENBANK & COMPANY
FLOUR
PRODUCE EXCHANGE NEW YORK, N. Y.

HABEL, ARMBRUSTER & LARSEN CO.
All **FLOUR** Grades
410-420 N. Western Ave., CHICAGO, ILL.

ANALYSES
FLOUR—CEREAL—GRAIN
Dependable, Prompt Service
Siebel Institute of Technology
CHICAGO

THE FRANK R. PRINA CORPORATION
Domestic **FLOUR** Export
LIVE WIRES—CONNECT!
500 Fifth Avenue NEW YORK

JOHN E. KOERNER & CO.
DOMESTIC EXPORT
FLOUR
P. O. Box 646 731 LaSalle St.
NEW ORLEANS, U. S. A.

KNIGHTON
NEW YORK BOSTON
PHILADELPHIA

• INDEX OF ADVERTISERS •

"A" series of page numbers used to index advertisements appearing in Section Two of this issue.

A

Abilene Flour Mills Co. 46
Acme-Evans Co. 2
Acme Flour Mills Co. 23
Allen, James, & Co. (Belfast), Ltd..... 47
Alva Roller Mills .....
Amber Milling Co. 22
Amendt Milling Co. 22
American Bag Co. .....
American Bakers Machinery Co.....
American Cyanamid & Chemical Corp... 28a
American Dry Milk Institute, Inc.....
American Flours, Inc. 23
American Machine & Foundry Co.....
Ames Harris Neville Co. 5
Anheuser-Busch, Inc. .....
Appraisal Service Co., Inc..... 26a
Archer-Daniels-Midland Co. 23
Arnold Milling Co. 41
Arrow Mills, Inc. 31
Atkinson Milling Co. 30

B

Baker Perkins, Inc. .....
Bang, Flemming .....
Barnett & Record Co..... 11a
Baxter, A. E., Engineering Co..... 11a
Bay State Milling Co. 46
Bemis Bro. Bag Co..... 9a
Big Jo Flour Mills 26
Black Bros. Flour Mills..... 31
Blair Milling Co. 22
Blake, J. H. .....
Blodgett, Frank H., Inc..... 46
Borden Co. .....
Bouwman, E. & W..... 31
Bowersock Mills & Power Co.....
Bowman Dairy Co. .....
Bowsher, N. P., Co. 10a
Bradley & Baker 47
Brey & Sharpless .....
Broenniman Co., Inc. .....
Brown's Hungarian Corp. .....
Bryo Company, The .....
Buhler Mill & Elevator Co. 41
Bulsing & Heslenfeld 47
Bunge Elevator Corp. 21

C

Cameron, John F., & Co.....
Canadian Bag Co., Ltd..... 45
Canadian-Bemis Bag Co., Ltd..... 45
Canadian Mill & Elevator Co.....
Cannon Valley Milling Co..... 26
Capital Flour Mills, Inc..... 5
Cargill, Incorporated 41
Carr, P. E., & Carr, Pedro, Jr.....
Carson, Robert, & Co., Ltd..... 47
Centennial Flouring Mills Co. 5
Central Bag & Burlap Co. 26a
Chandler, Arthur L., & Co..... 40
Chapman & Smith Co. .....
Chase Bag Co. 3
Chatfield & Woods Sack Co. 10a
Checkerboard Elevator Co. 14a
Chicago, So. Shore & So. Bend R. R....
Chickasha Milling Co. 23
Chubb & Son 21
Church & Dwight Co., Inc.....
Coatsworth & Cooper, Ltd..... 44
Cohen, Felix 47
Colborne Mfg. Co. .....
Coleman, David, Inc. 46
Colorado Milling & Elevator Co.....
Commander-Larabee Milling Co. 17
Consolidated Flour Mills Co..... 6
Continental Grain Co. 26
Corn Products Sales Co. .....
Coventry, Sheppard & Co. 47
Crawford & Law 47
Cream of Wheat Corp. 23
Crete Mills, The 23
Crookston Milling Co. 5
Crown Bag Co. 29a
Crown Mills 5

D

Dairymen's League Co-operative Association, Inc. .....
Davis & Company .....
Davis-Noland-Merrill Grain Co. 29
Day Co. 10a
De Lisser, Andrew .....
De Stefano, Ulysses .....
Denver Alfalfa Milling & Products Co... 46
Deutsch & Sickert Co. .....
Diamond Crystal Salt Co., Inc..... 29a
Dings Magnetic Separator Co..... 23a
Dixie-Portland Flour Co. 2
Dobry Flour Mills, Inc. 30
Dominion Flour Mills, Ltd. 44
Doughnut Corporation of America .....
Dow Chemical Co. 13a
Duluth Universal Milling Co. 26
Duncan, Wm. C., & Co., Inc.....
Dunwoody Institute .....
Dutchess Bakers' Machinery Corp. ....

E

Eagle Roller Mill Co. 30
Eckhart, B. A., Milling Co. 14a
Enns Milling Co. 23
Entoleter Division, Safety Car Heating & Lighting Co., Inc. 27
Essmueller Co. 12a
Evans Milling Co. 23

F

Farmers & Merchants Milling Co..... 30
Farquhar Bros. 47
Feast, C. E., & Co. 47
Federal Mill, Inc. 23
Fennell, Spence & Co. 47
Ferbo Co. .....
Finger Lakes & Hudson Flour Mills, Inc. 21
Fisher-Fallgatter Milling Co. 23
Fisher Flouring Mills Co..... 5
Florelius & Ulsteen a/s .....
Flour Mills of America, Inc..... 7
Fort Garry Flour Mills Co., Ltd.....
Fort Morgan Mills .....
Franco, Francis M. 47
Freeman Food Products Co. .....
Fulton Bag & Cotton Mills..... 23a

G

Gallatin Valley Milling Co. .....
Garland Milling Co. .....
General Baking Co. 46
General Mill Equipment Co..... 20a
General Mills, Inc. .....Cover 4
George, S., Co. 25a
Gillespie Bros., Ltd. 45
Globe Milling Co. 41
Godde, Albert, Bedin, Inc. 27a
Gooch Milling & Elevator Co. 22
Goodlander Mills Co. .....
Great Bend Milling Company .....
Great Star Flour Mills, Ltd. 43
Greenbank, H. J., & Co. 47
Grippeling & Verkley 47

H

Haaky Mfg. Co. 8a
Habel, Armbruster & Larsen Co..... 47
Hachmeister, Inc. .....
Hamm, J. M. & C. M. .....
Hammond Bag & Paper Co.....
Handees Co. .....
Hardesty Milling Co. 41
Harris Bros. & Co., Ltd..... 47
Hart-Bartlett-Sturtevant Grain Co., Inc. 30
Hart-Carter Co. 32a
Heide, Henry, Inc. .....
Henkel Flour Mills 22
Hoffman, U. S., Machinery Corp..... 29a
Hoffmann-La Roche, Inc. 22a
Holland Engraving Co. 22
Hookway, F. E., & Co., Ltd.....
Horan, Hubert J. 46
Hosmer, Calvin, Stolte Co. .....
Howie, The J. K., Co..... 27a
Hubbard Milling Co. 41
Hunter Milling Co. 21

I

Igleheart Bros., Inc. 30
Imbs, J. F., Milling Co..... 5
Industrial Fumigant Co., Inc..... 10a
Innis, Speiden & Co. 30a
International Milling Co. .....Cover 2
Ismert-Hincke Milling Co. 41

J

Jaeger, Frank, Milling Co. .....
Jennison, W. J., Co. 21
Jewell, L. R., & Son..... 20
Johansen, Anth., & Co.....
Johnson-Herbert & Co. 47
Jones-Hettelsater Construction Co..... 26a
Joseph, I. S., Co., Inc. 47
Junction City Milling Co. .....

K

Kalamazoo Vegetable Parchment Co....
Kansas Flour Mills Company 7
Kansas Milling Co. 30a
Katz, Max, Bag Co..... 11a
Kelly-Erickson Co. 46
Kelly Flour Co. 47
Kelly, William, Milling Co..... 31
Kenser, Charles H. 22
Kent, Percy, Bag Co., Inc..... 8
Kimpton, W. S., & Sons..... 43
King, H. H., Flour Mills Co..... 46
King Midas Flour Mills 21
King Milling Co. 26
Kipp-Kelly, Ltd. .....
Knighton, Samuel, & Sons, Inc..... 47
Koerner, John E., & Co..... 47

L

La Grange Mills 30
Lake of the Woods Milling Co., Ltd... 42
Lakeside Milling Co., Ltd. 43
Lever Bros. Co. .....
Lexington Mill & Elevator Co.....
Loken & Co. 47
Long, W. E., Co. 26
Luchsinger, Meurs & Co. .....
Lyon & Greenleaf Co., Inc..... 31
Lysle, J. C., Milling Co..... 41

M

McConnell & Reid, Ltd. 47
McKinnon & McDonald, Ltd.....
McLean, W. D. .....
McVeigh & Co. 20
Maney Milling Co. 22
Maple Leaf Milling Co., Ltd..... 42
Mardorf, Peach & Co., Ltd..... 47
Marsh & McLennan, Inc..... 46
N. V. "Meelunie," Amsterdam.....
Mennel Milling Co. .....
Merck & Co., Inc. 2a
Merrill, Harold A. .....
Merrill Lynch, Pierce, Fenner & Beane.
Mid-Kansas Milling Co. .....
Midland Flour Milling Co. .....
Mid-West Laboratories Co., Inc..... 21a
Milling Engineers, Inc. 40
Mill Mutual Fire Prevention Bureau... 30a
Miner-Hillard Milling Co. 5
Minot Flour Mill Co. 30
Monsanto Chemical Co. 15a
Montana Flour Mills Co. .....
Moore-Lowry Flour Mills Co..... 21
Moore-Seaver Grain Co. 41
Morris, Cliff H., & Co.....
Morrison Milling Co. 26
Morrison, Wm., & Son, Ltd..... 47
Moundridge Milling Co. 41

N

National Almond Products Co. .....
National Cotton Council of America....
National Grain Yeast Corp.....
Neahr, M. J., & Co..... 11a
Nebraska Consolidated Mills Co..... 23
Nehemkis, Peter R., Sr.....
Neill, Robert, Ltd. .....
New Century Co. .....
New Era Milling Co. 2
New Jersey Flour Mills Co..... 21
Newton Milling & Elevator Co.....
Noblesville Milling Co. .....
Norenberg & Beisheim .....
Norris Grain Co. 29
North Dakota Mill & Elevator.....
Norton, Willis, Co. 26
Northern Publishing Co. 23a
Norvell-Williams, Inc. 25a
Novadel-Agene Corp. .....Cover 3
Nulomoline Co., The .....

O

Ogilvie Flour Mills Co., Ltd. 45
Omega Machine Co. (Division of Builders Iron Foundry) 25a
Osieck & Co. .....

P

Page, Thomas, Milling Co. .....
Paniplus Company .....
Parrish & Heimbecker, Ltd..... 43
Pearlstone, H. S., Co.....
Peek Bros. .....
Pfeffer Milling Co. 26
Pfizer, Chas., & Co., Inc..... 18a
Pillman & Phillips 47
Pillsbury Mills, Inc. 1
Pittsburgh Plate Glass Co., Columbia Chemical Division 24a
Pratt, R. C. 45
Preston-Shaffer Milling Co. 5
Prina, Frank R., Corp..... 47
Procter & Gamble .....

Q

Quaker Oats Company .....

R

Rademaker, H. J. B. M. 47
Raible, J. R., Co. .....
Red River Milling Co..... 23
Red Star Yeast & Products Co.....
Red Wing Milling Co..... 22
Richardson, James, & Sons, Ltd..... 44
Richmond Mfg. Co. 27a
Riegel Paper Corp. .....
Robin Hood Flour Mills, Ltd..... 44
Robinson Milling Co. 41
Robinson, Thomas, & Son, Ltd..... 11a
Rodney Milling Co. 26
Rogers Bros. Seed Co. .....
Ross Milling Co. 30
Ruoff, A., & Co. .....
Russell, D. T., & Baird, Ltd..... 47
Russell-Miller Milling Co. 31
Russell Milling Co. 21
Rutherfurd, W. H., & Co.....

S

St. Cloud Milling Co. 46
St. Joseph Testing Laboratories, Inc.... 29a
St. Lawrence Flour Mills Co., Ltd..... 42
St. Regis Sales Corporation 31a
Saxony Mills 21
Schneider, W. H., Co.....
Schultz, Baujan & Co..... 21
Scott, Mungo, Ltd. 45
Security Milling Co., Inc.....
Seedburo Equipment Co. .....
Shellabarger Mills 22
Sheridan Flouring Mills, Inc..... 22
Shevelove, J. J. .....
Short, J. R., Milling Co.....
Siebel Institute of Technology 47
Simmons Engineering Co. .....
Simonds-Shields-Theis Grain Co. 29
Skandinavisk Mel Import .....
Smith, Sidney, Flour, Feed & Grain, Ltd. 47
Southwestern Laboratories 11a
Spillers, Ltd. 44
Spindler, L. G. .....
Spokane Flour Mills Co..... 5
Sprake & Co. 11a
Springfield Milling Corp. 31
Staley Milling Co. .....
Stanard-Tilton Division (Russell-Miller Milling Co.) .....
Standard Brands, Inc. .....
Standard Milling Co. 21
Stannard, Collins & Co. 47
Stivers, Theo. .....
Stolp & Co., Ltd. 47
Stratton Grain Co. .....
Strisik, S. R., Co. 46
Sullivan & Kennedy .....
Swift & Co. .....

T

Tanner-Evans-Siney Corp. .....
Taylor, Andrew, & Co., Ltd..... 47
Tennant & Hoyt Co..... 21
Tension Envelope Corp.....
Terminal Flour Mills Co..... 5
Textile Bag Manufacturers Association.
Thomas, A. Vaughan .....
Thompson, E. S. .....
Tidewater Grain Co. 2
Tobler, Ernst & Traber, Inc..... 19a
Toronto Elevators, Ltd. 44
Transit Grain Co. 31
Tri-State Milling Co. .....
Twin City Machine Co. 11a

U

Uhlmann Grain Co. 18, 19
Union Machinery Co. .....
Union Pacific Railroad 4
United Grain Growers, Ltd..... 43
Urban, George, Milling Co..... 45

V

Valier & Spies Milling Company.....
Van Den Bergh, Gebroeders 47
Van Dusen Harrington Co..... 5
Verhoeff's Meel-Import 47
Victor Chemical Works 21a
Virginia-Carolina Chemical Corp. .....
Vis, P. C., & Co..... 47
Voigt Milling Co. .....
Vos, M. J., Haarlem, Holland..... 47

W

Wall-Rogalsky Milling Co. 31
Wallace & Tiernan Co., Inc.....Cover 3
Walnut Creek Milling Co..... 26
Wamego Milling Co. .....
Watson & Philip, Ltd. 47
Watson Higgins Milling Co..... 22
Weber Flour Mills Co. 2
Wesson Oil & Snowdrift Sales Co.....
Western Assurance Co. 45
Western Canada Flour Mills Co., Ltd... 43
Western Milling Co. 5
Western Star Mill Co..... 23
Western Waterproofing Co. 11a
White & Co. 46
Whitewater Flour Mills Co. 30
Wichita Flour Mills Co..... 20
Williams Bros. Co. 31
Williams, Cohen E., & Sons..... 40
Winthrop Chemical Co., Inc.....16a, 17a
Witsenberg, M., Jr. .....
Wolf Milling Co. 22
Woods Mfg. Co., Ltd. 43

Uncertain as the weather

When the year's supply of ice depended on the vagaries of the weather, production schedules were little better than guesswork. In *today's* plants ice is produced and shipped in a matter of hours.

With the Agene Process the miller of today avoids uncertainties and guesswork in aging his flour. Production can be planned ahead and the storage space saved can be put to more profitable use.

There's no guesswork either when the baker uses Agene matured flour. He is assured of uniform results with flour free of the "uncertainties of the weather".

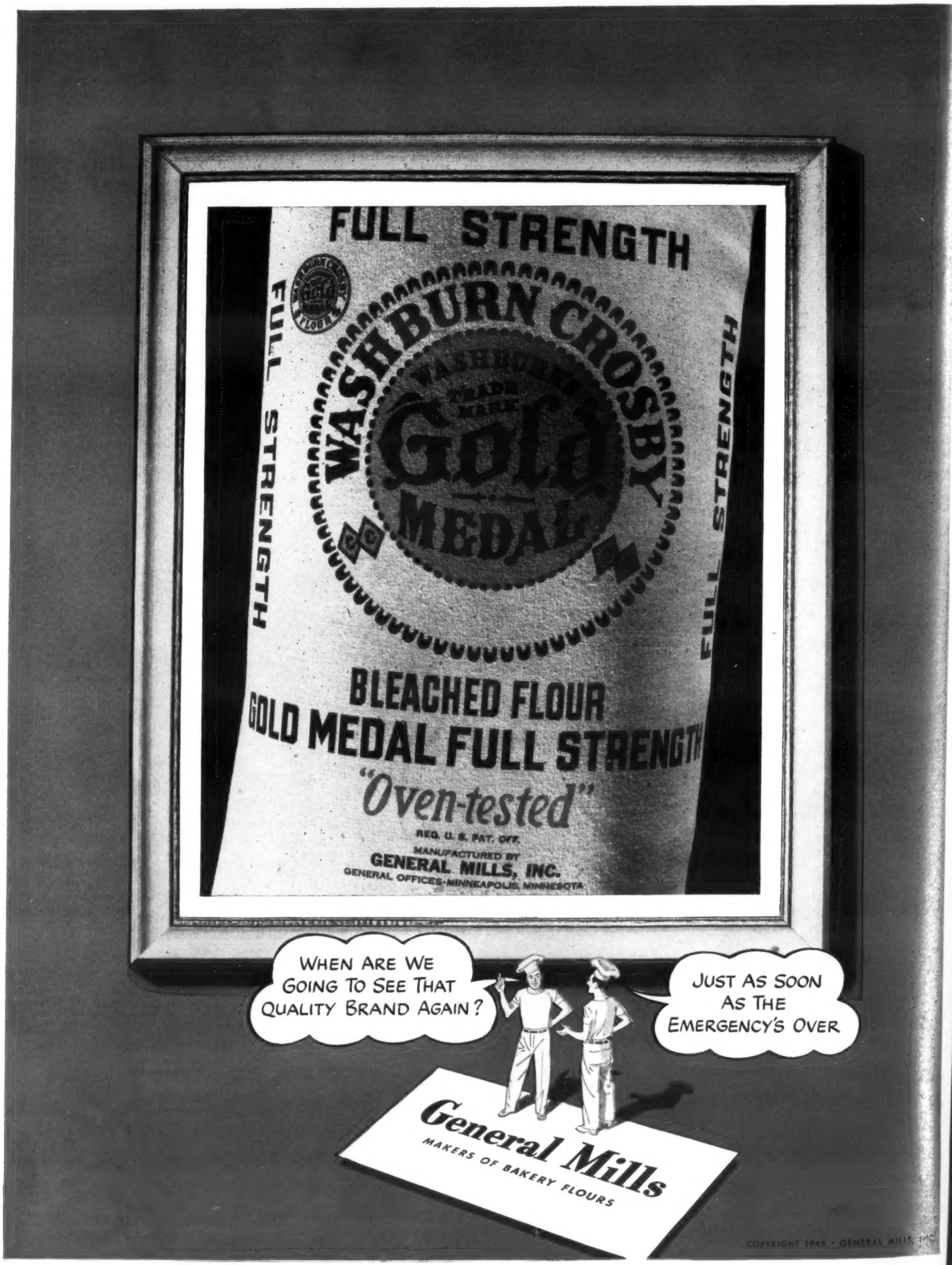
HA-127

AGENE
— for flour maturing
NOVADELOX
— for a whiter, brighter flour
N-Richment-A
— for uniform enrichment

WALLACE & TIERNAN COMPANY, INC., AGENTS FOR

NOVADEL-AGENE

BELLEVILLE 9, NEW JERSEY


FULL STRENGTH
WASHBURN CROSBY
GOLD MEDAL
FULL STRENGTH
FULL STRENGTH
BLEACHED FLOUR
GOLD MEDAL FULL STRENGTH
"Oven-tested"
REG. U. S. PAT. OFF.
MANUFACTURED BY
GENERAL MILLS, INC.
GENERAL OFFICES-MINNEAPOLIS, MINNESOTA
WHEN ARE WE GOING TO SEE THAT QUALITY BRAND AGAIN?
JUST AS SOON AS THE EMERGENCY'S OVER
General Mills
MAKERS OF BAKERY FLOURS
COPYRIGHT 1946 · GENERAL MILLS, INC.